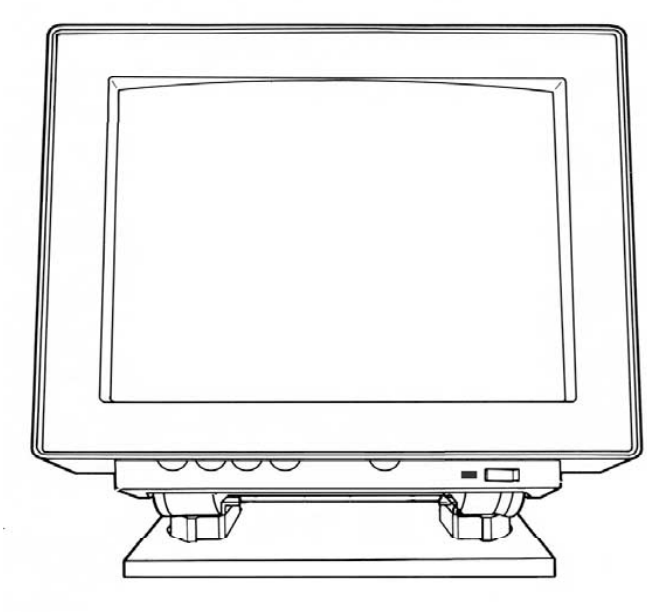


Installation Manual For

Sun/Sony GDM-20D11 Color Monitor Series

Please read Entirely Before Installation!

This document contains instructions to connect a Sun Microsystems/Sony GDM-20D11 color monitor to a PC system, using the accompanying cable and video card. Please read the documentation provided with the video card, for more instructions.
The above picture looks different from the actual monitor.

READ THIS BEFORE INSTALLING THE UNIT:

Please follow these simple instructions, to assure a trouble free monitor installation:

Your Sun/Sony GDM-20D11 monitor like many high-end monitors, requires a special cable to attach to your computer system. This cable is called a **13W3** type cable.

One such cable is usually supplied with your monitor and has a male 13W3 connector on the end which is intended to connect to the 13W3 female connector, located in the back of the Sun/Sony GDM-20D11 unit. Below illustration displays both female (back of the monitor) and male (end of the cable) 13W3 connections.

Figure A - Female 13W3 connection on monitor's back.

Figure B - Male 13W3 connection on the cable's end.

If your are using the monitor on a PC system:

This monitor requires a special board to run on a PC system. The video card supplied must have Jumper for Sync on Green (or Composite sync) in "ON" position. Please make sure that the "Sync-On-Green" Jumper (Usually identifiable by a **Red Colored Plastic Jumper** on the video card) is in **Engaged** position, as shown in figure 2, below.

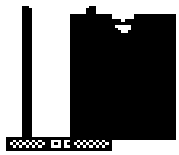


Figure 1 – Red Jumper Removed

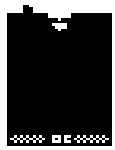


Figure 2 – Red Jumper Engaged

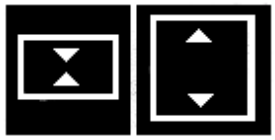
MIRAGE LOCK :

A **MIRAGE LOCK** adapter (15 pin to 15 pin) is also provided for video cards which do not support sync-on green signals (if you ordered the monitor separately).
Please connect one side of this adapter to your video card and the other side to the 13w3-VGA cable provided

Replacement video cards for this monitor can be obtained from: http://fixedfrequency.com

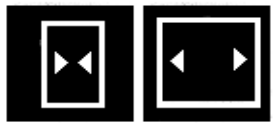
ADJUSTING THE SCREEN :

This unit adjustments are done using a credit card size remote. The Remote must be pointed directly to the front right side of the monitor at about 1-2 inches apart from the monitor.



V.SIZE or Vertical size adjustment control:
This is your vertical height adjustment. You need to center the screen vertically first to get this correct.

V.CENT or Vertical center adjustment control:
This control will move the screen up or down (vertical center). In some cases the companion video card will show a bigger size for 640x480 and 1280x1024 resolutions than the 1024x768. In this case if you want to be able to see most resolutions completely, adjust the monitor for 1280x1024, so that 640x480 will fill up the screen too.



H.SIZE or Horizontal Size adjustment control:
This is the monitor's width size adjustment, you need to center the screen horizontally first before making this adjustment. Sometimes increasing the Horizontal size to the limits may cause the monitor to behave abnormal or the screen may become shaky. Normally leave about 1/8 of inch of blank border on each side of the screen, for the best result. This is needed for the proper monitor timing adjustment.

H. Center or Horizontal Center Control:
This moves the screen to the right and left.

ROTATION control:
Moves the screen geometry by moving all four sides of the monitor clockwise or counterclockwise. This is used to make the screen to be straight on the top and bottom.

.

Running the monitor on regular video cards:

This monitor requires a special video card to run all the lower resolution modes properly on a PC. Higher resolutions work just fine depending on the limitations of your video card.
(mention that you want -81 Khz setting). We recommend **www.mirage-mmc.com** to support all the low resolution and high resolution modes.

You can run this monitor on normal video cards with the monitor specification using the MIRAGE LOCK device. In this case you must connect the Mirage LOCK to the cable and then connect it to this monitor. You must also use a high resolution mode and refresh rate. This monitor will not work in DOS, Safe mode or 640x480 without the MIRAGE video card.

We recommend that you use your existing system and previous monitor to change the display settings to one of the high resolutions mentioned below. Please make sure that you also change your monitor type to one which supports higher refresh rates like the Sony G500 Multiscan monitor mentioned below. Then switch to 1280x1204 60 hz mode on your previous monitor and make sure that the picture is ok (some small monitors may not be able to run high resolution and high refresh rates, so if you could not see a recognizable picture, go back to your previous mode). Once the picture is ok, without rebooting and without turning your system off, switch the monitors and connect this monitor. You should get a stable picture on this monitor now.
You may want to go to a different resolutions or higher refresh rates. Windows will switch to the new mode and asks you to confirm the new mode within 15 seconds. If you can not see the new mode and do not respond within the 15 seconds, the screen will go back to the previous mode.

Important Hint: When changing resolutions and refresh rates, change one at a time. For example to get 1024x768 @85 hz which we recommend on this monitor, first change to 1024x768 resolution. Hit Apply, then change the refresh rate to 85 Hz and hit Apply again.

Try using the following resolutions and refresh rates:
800x600 @ 100 Hz
1024x768 @75, 85, 100 Hz (* recommended mode)
1124x864 @75, 85, 100 Hz (* recommended mode)
1280x1024 @60, 70 Hz
1600x1200 @60 Hz

Also we recommend -,- (negative polarity) for the modes you require to run. Standard 1280x1024 @60 Hz uses -,- polarity for example.

To change the modes, polarity and make other adjustments we recommend powerstrip software:

http://www.entechtaiwan.com

Monitor selection under windows 9x:

Under Monitor selections, choose Sony Corp G500 Multiscan to give you all high refresh choices. If you are using a MIRAGE video card, choose standard monitor type, SuperVGA 1600x1200.

MIRAGE Video Cards:

To obtain video cards which run all the modes (including Cmos setup, DOS, VGA, Games,....and high resolutions) on this monitor please visit :

http://www.mirage-mmc.com

The Following Mirage video cards work with this monitor in all resolutions and modes:

Mirage Illusionist -32M AGP
Mirage Illusionist -32M PCI
Mirage Illusionist -16M AGP
Mirage Illusionist -16M PCI
Mirage Illusionist -8M PCI
Mirage Diablo-8M AGP

SONY Tube mask lines:

This monitor has 2 very fainted horizontal lines across the screen. This is how SONY Trinitron Monitors are made to connect the tube masks together and this is not a monitor defect. For further Information, please contact **www.sony.com**.

Monitor Labels and handling:

- ✓ Please take extra caution when lifting this monitor. Normally we recommend 2 people to carry a 19"/20" or higher size monitor as this monitor weighs over 70 lbs.
- ✓ In some cases, the serial # and front Logo of this monitor may have been removed/replaced by the Manufacturer (HP, SUN Micro Systems, ...) so that the original warranty is not provided from the manufacturer.
- ✓ The 90 day limited warranty is provided by Multimedia Computers.
- ✓ This monitor is carefully tested and refurbished to have the original display specification. We apologize for any imperfections on the casing (bezel) as these may not be new monitors.

Monitor SPECIFICATION:

Vertical refresh rate : 60-120 Hz
Horizontal Scan rate: 60- 81 KHz (Kilo Hetrz).
Horizontal and Vertical sync polarity : Recommended **Negative polarity** (-,-)
Horizontal scan rate is automatic for the above range.
Maximum Resolution: 1600x1200
Monitor Adjusted for: 1024x768
Tube: Sony Trinitron

This monitor does not function with a notebook running at 31.5 Khz(VGA standard).

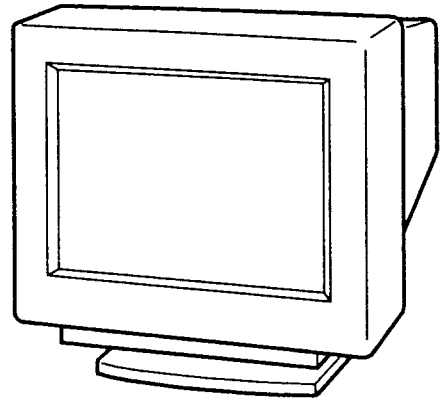
Replacement video cards can be obtained from: http://www.mirage-mmc.com

GDM-20SHT

SERVICE MANUAL

Chassis No. SCC-H71A-A

Multiscan 20*sh*



P-5 CHASSIS

SPECIFICATIONS

Picture tube	0.25 mm aperture grille pitch 20 inches measured diagonally (19" visual) 90-degree deflection
Effective picture size	Approx. 384 × 290 mm (w/h) (15 ¼ × 11 ½ inches)
Display picture size	Approx. 373 × 280 mm (w/h) (14 ¾ × 11 ⅛ inches) or Approx. 350 × 280 mm (w/h) (13 ⅞ × 11 ⅛ inches)
Resolution	Horizontal: 640* to 1600 dots (*VGA mode) Vertical: 480* to 1200 lines (*VGA mode)
Deflection frequency	Horizontal: 30 to 107 kHz Vertical: 50 to 160 Hz
Input signal	Sync: Sync on Green: 0.286 Vp-p, Negative H/V Composite Sync: 75 ohms/2 kohms, TTL Positive/Negative H. Sync/V. Sync Separate: 75 ohms/2 kohms, TTL Positive/Negative Video: R/G/B: 0.714 Vp-p, Positive
AC input voltage/current	100 to 120 V, 50/60 Hz, max. 2.5 A 200 to 240 V, 50 – 60 Hz, max. 1.2 A
Dimensions	Approx. 474 × 474 × 502 mm (w/h/d) (18 ¾ × 18 ¾ × 19 ¾ inches)
Mass	Approx. 31 kg (68 lb 4 oz)
Supplied accessories	AC power cord (1) 15-pin mini D-sub (HD15 – HD15) video cable (1) Ferrite core (1) Binder (1)

Design and specifications are subject to change without notice.

For Service Manuals
MAURITRON SERVICES
8 Cherry Tree Road, Chinnor
Oxfordshire, OX9 4QY.
Tel (01844) 351694
Fax (01844) 352554
email:- mauritron@dial.pipex.com

MICROFILM

TRINITRON® COLOR GRAPHIC DISPLAY

SONY®

Power Saving Function

This monitor meets the power saving guidelines set by TCO92 guidelines (NUTEK). It is capable of reduced power consumption when used with a computer equipped with Display Power Management Signaling (DPMS). By sensing the absence of the sync signal coming from the computer, it will reduce the power consumption as follows:

CAUTION: The Power Saving function will automatically put the monitor into the Active-off state if the power switch is turned on without any video signal input. Once the horizontal and vertical syncs are sensed, the monitor will automatically return to its Normal operation state.

	State	Power consumption	Required resumption time	⏻ Power indicator	POWER SAVING indicator
1	Normal operation	100%	—	green on	off
2	Suspend (1st step of power saving)	approx. 10%	approx. 3 sec.	green on	orange on
3	Active-off (2nd step of power saving)	approx. 7%	approx. 10 sec.	off	orange on

TIMING SPECIFICATION

Mode	1	2	3	4	5	6	7	8	9
Graphics mode	VGA (Graphics)	VESA-75	Macintosh 16" Color	Macintosh 19" Color	Macintosh 21" Color	VESA-75	VESA-75	VESA-80	VESA-85
Resolution (H x V)	640 x 480	800 x 600	832 x 624	1024 x 768	1152 x 870	1280 x 1024	1600 x 1200	1600 x 1200	1600 x 1200
Dot Clock	25.17 MHz	49.5 MHz	57.283 MHz	80 MHz	100 MHz	135 MHz	202.5 MHz	216 MHz	229.5 MHz
H Frequency	31.463 kHz	46.875 kHz	49.725 kHz	60.241 kHz	68.681 kHz	79.976 kHz	93.750 kHz	100.00 kHz	106.250 kHz
H Total	31.784 µS	21.333 µS	20.111 µS	16.600 µS	14.560 µS	12.504 µS	10.667 µS	10.000 µS	9.412 µS
H Front porch	0.318 µS	0.323 µS	0.559 µS	0.550 µS	0.320 µS	0.119 µS	0.316 µS	0.296 µS	0.279 µS
H Sync width	3.814 µS	1.616 µS	1.117 µS	1.200 µS	1.280 µS	1.067 µS	0.948 µS	0.889 µS	0.837 µS
H Back porch	1.589 µS	3.232 µS	3.910 µS	2.050 µS	1.440 µS	1.837 µS	1.501 µS	1.407 µS	1.325 µS
H Blanking	5.721 µS	5.172 µS	5.586 µS	3.800 µS	3.040 µS	3.022 µS	2.765 µS	2.593 µS	2.440 µS
H Active Area	26.063 µS	16.162 µS	14.524 µS	12.800 µS	11.520 µS	9.481 µS	7.901 µS	7.407 µS	6.972 µS
V Frequency	59.929 Hz	75.000 Hz	74.550 Hz	74.927 Hz	75.062 Hz	75.025 Hz	75.000 Hz	80.000 Hz	85.000 Hz
V Total	525 H Lines	625 H Lines	667 H Lines	804 H Lines	915 H Lines	1066 H Lines	1250 H Lines	1250 H Lines	1250 H Lines
V Front porch	2 H Lines	1 H Line	1 H Line	3 H Lines	3 H Lines	1 H Line	1 H Line	1 H Line	1 H Line
V Sync width	2 H Lines	3 H Lines	3 H Lines	3 H Lines	3 H Lines	3 H Lines	3 H Lines	3 H Lines	3 H Lines
V Back porch	25 H Lines	21 H Lines	39 H Lines	30 H Lines	39 H Lines	38 H Lines	46 H Lines	46 H Lines	46 H Lines
V Blanking	29 H Lines	25 H Lines	43 H Lines	36 H Lines	45 H Lines	42 H Lines	50 H Lines	50 H Lines	50 H Lines
V Active Area	496 H Lines	600 H Lines	624 H Lines	768 H Lines	870 H Lines	1024 H Lines	1200 H Lines	1200 H Lines	1200 H Lines
Sync	External	External	External	External	External	External	External	External	External
Sync Polarity H	(–)	(+)	(–)	(–)	(–)	(+)	(+)	(+)	(+)
Sync Polarity V	(–)	(+)	(–)	(–)	(–)	(+)	(+)	(+)	(+)
Scan Mode	Non-interlace	Non-interlace	Non-interlace	Non-interlace	Non-interlace	Non-interlace	Non-interlace	Non-interlace	Non-interlace

1) VGA does not include the border area.
2) Recommended horizontal frequency timings are:
   Horizontal front porch is 0.1 µsec or more.
   Horizontal sync. width is 0.8 µsec or more.
   Horizontal back porth is 0.6 µsec or more.
   Horizontal blanking width is 2.4 µsec or more.

SAFETY CHECK-OUT
(US Model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
8. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC Leakage. Check leakage as described below.

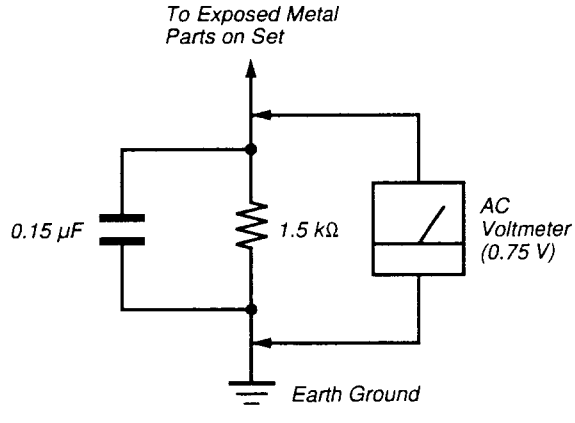


Fig. A. Using an AC voltmeter to check AC leakage.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOMs that are suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

WARNING!!
NEVER TURN ON THE POWER IN A CONDITION IN WHICH THE DEGAUSS COIL HAS BEEN REMOVED.

SAFETY-RELATED COMPONENT WARNING!!
COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL FOR SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

AVERTISSEMENT!!
NE JAMAIS METTRE SOUS TENSION QUAND LA BOBINE DE DEMAGNETISATION EST ENLEVEE.

ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!
LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIES DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.

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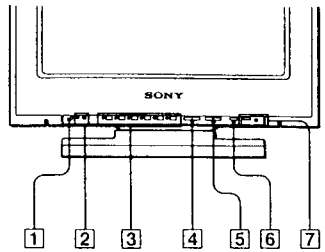
The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remein as in the manual.

SECTION 1
GENERAL

Function of Controls

See the given pages for further description.

Front panel



1 RESET button (page 10)
Resets the adjustment data to the factory-preset levels for the input signal being received.

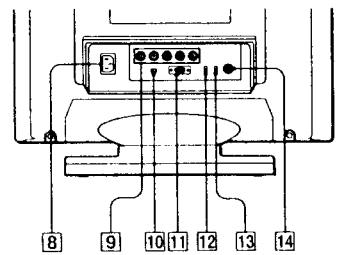
2 MOIRE button and indicator (page 10)
Eliminates moire.

3 Adjustment parameter buttons and indicators
Select the adjustment parameters. The indicator of the selected parameter lights.
ROTATION: Raster rotation and color distortion (page 10)
COLOR: Color temperature (page 9)
CONV: Convergence (page 9)
SHAPE: Pincushion and keystone distortions (page 9)
SIZE: Picture size (page 9)
CENTER: Centering (page 8)

4 ☼ (brightness) buttons
Adjust the picture brightness in normal operation mode (page 8).
Act as +/– or ◊/◊ controls to adjust picture size, centering, convergence, rotation, keystone distortion and color temperature (pages 8 – 10).

5 ◑ (contrast) buttons
Adjust the picture contrast in normal operation mode (page 8).
Act as +/– or ◇/◇ controls to adjust picture size, centering, convergence, beam landing, pincushion distortion, color temperature and moire (pages 8 – 10).

Rear panel



6 POWER SAVING indicator (page 11)
Lights up when the monitor is in Power Saving mode. Flashes when the limit value for an adjustment is reached. Also flashes if you press the adjustment buttons on the front panel in the Lock mode.

7 ⏻ power switch and indicator
Turns the monitor on and off. The indicator illuminates when the monitor is turned on.
To disconnect the power completely, unplug the power cord.

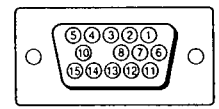
8 AC IN connector (page 6)
Input for the supplied AC power cord.

9 Video input connectors (5 BNC) (page 6)
Accept RGB video and sync signals.

BNC connectors / Input signals	R	G	B	HD	VD
Sync on Green	Red	Composite Sync on Green	Blue	—	—
H/V Composite Sync	Red	Green	Blue	H/V Composite Sync	—
H/V Separate Sync	Red	Green	Blue	H. Sync	V. Sync

10 BNC/D-SUB switch (page 6)
Selects the RGB or D-sub signal.

11 Video input connector (15-pin mini D-sub) (page 6)
Accepts D-sub video and sync signals. To connect this connector, use the supplied 15-pin mini D-sub cable.



Pin No.	Signal	Pin No.	Signal
1	Red	9	N/C
2	Green (Composite Sync on Green)	10	Ground
3	Blue	11	Ground
4	Ground	12	Bi-Directional Data (SDA)*
5	DDC Ground*	13	H. Sync
6	Red Ground	14	V. Sync
7	Green Ground	15	Data Clock (SCL)*
8	Blue Ground		

* Display Data Channel (DDC) Standard by VESA

12 75Ω/2kΩ switch
Switches the impedance of the sync input connectors (9, 11) termination to 75 Ω or 2 kΩ. This monitor is initially set to 2 kΩ, which is appropriate for the majority of IBM compatible and Macintosh systems. For unique systems which may require 75Ω, see the Operating Instructions of your computer.

13 CONTROL LOCK switch
Locks the monitor so that the buttons, except the power switch, on the front panel cannot be operated (Lock mode). With this switch, you can ensure that the display remains in the optimum condition even when the monitor is placed where the control buttons can be touched by unauthorized persons.
To release the Lock mode, set to OFF.
Normally keep this switch set to OFF.

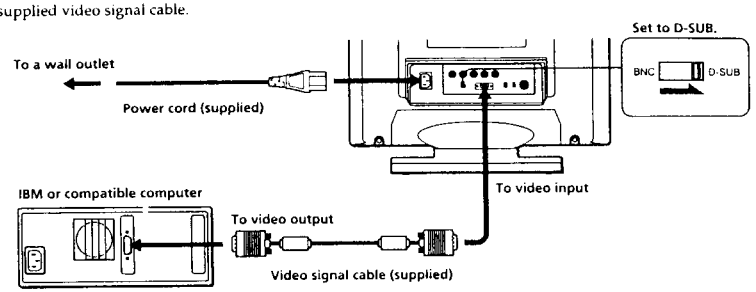
14 SERVICE terminal
The terminal is to be used by service personnel only.

Connection

You can connect this monitor to any IBM or compatible system, Macintosh, and other various computers. In order to comply with the mandatory FCC standards, use the supplied video signal cable.

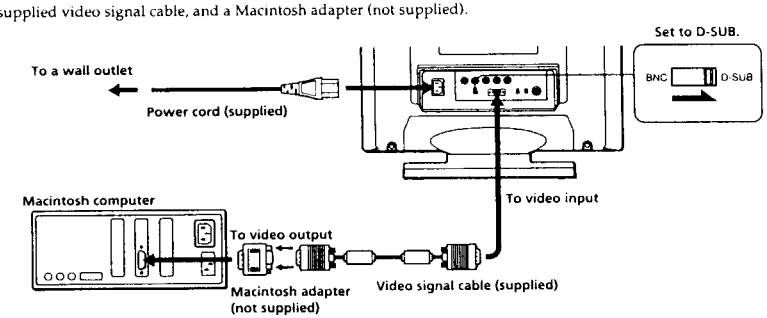
Connecting an IBM or compatible system

Use the supplied video signal cable.



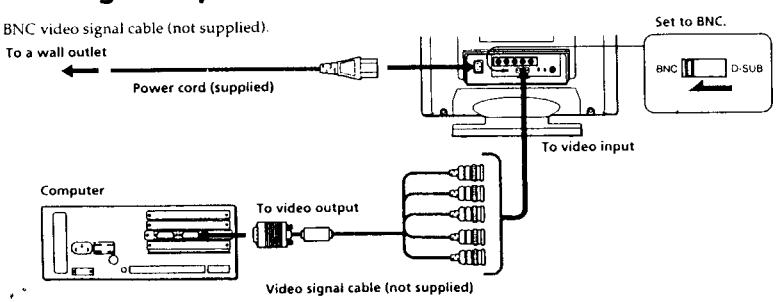
Connecting a Macintosh system

Use the supplied video signal cable, and a Macintosh adapter (not supplied).



Connecting a computer to the BNC connector

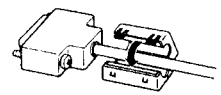
Use a BNC video signal cable (not supplied).



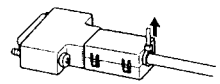
Attaching the ferrite cores

When you use a video signal cable other than the supplied one, be sure to attach the supplied ferrite core as illustrated.

1 Close the lid.



2 Pull the supplied plastic binder tightly.



Note

If you do not attach the ferrite core, the monitor will not conform to mandatory FCC standards.

Preset Mode

The Multiscan 20sh automatically adjusts the display size and position to the optimum in accordance with the input signal up to 18 different types.
It has factory-preset adjustment data for 9 different types of signals (preset mode). When a computer or a workstation that issues such signal is connected, the optimum display is obtained without any manual adjustment.
The factory-preset adjustment data are listed below:

No.	Display (dots x lines)	Horizontal frequency	Vertical frequency	Graphics mode
1	640 x 480	31.5 kHz	60 Hz	VGA Graphic [1]
2	800 x 600	46.9 kHz	75 Hz	VESA [2]
3	832 x 624	49.7 kHz	75 Hz	Macintosh 16" color [3]
4	1024 x 768	60.2 kHz	75 Hz	Macintosh 19" color
5	1152 x 870	68.7 kHz	75 Hz	Macintosh 21" color
6	1280 x 1024	80.0 kHz	75 Hz	VESA
7	1600 x 1200	93.8 kHz	75 Hz	VESA
8	1600 x 1200	100 kHz	80 Hz	VESA
9	1600 x 1200	106.3 kHz	85 Hz	VESA

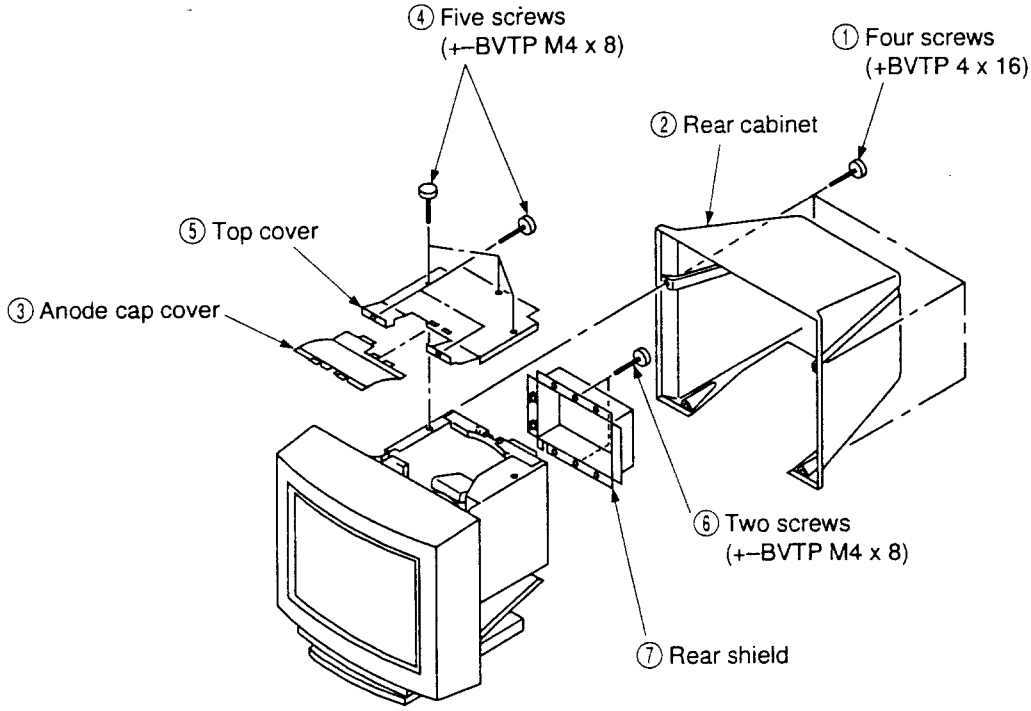
1) VGA is a trademarks of IBM Corporation.
2) VESA is a trademark of the non-profit organization, Video Electronics Standard Association.
3) Macintosh is a trademark of Apple Computer Inc.

Notes

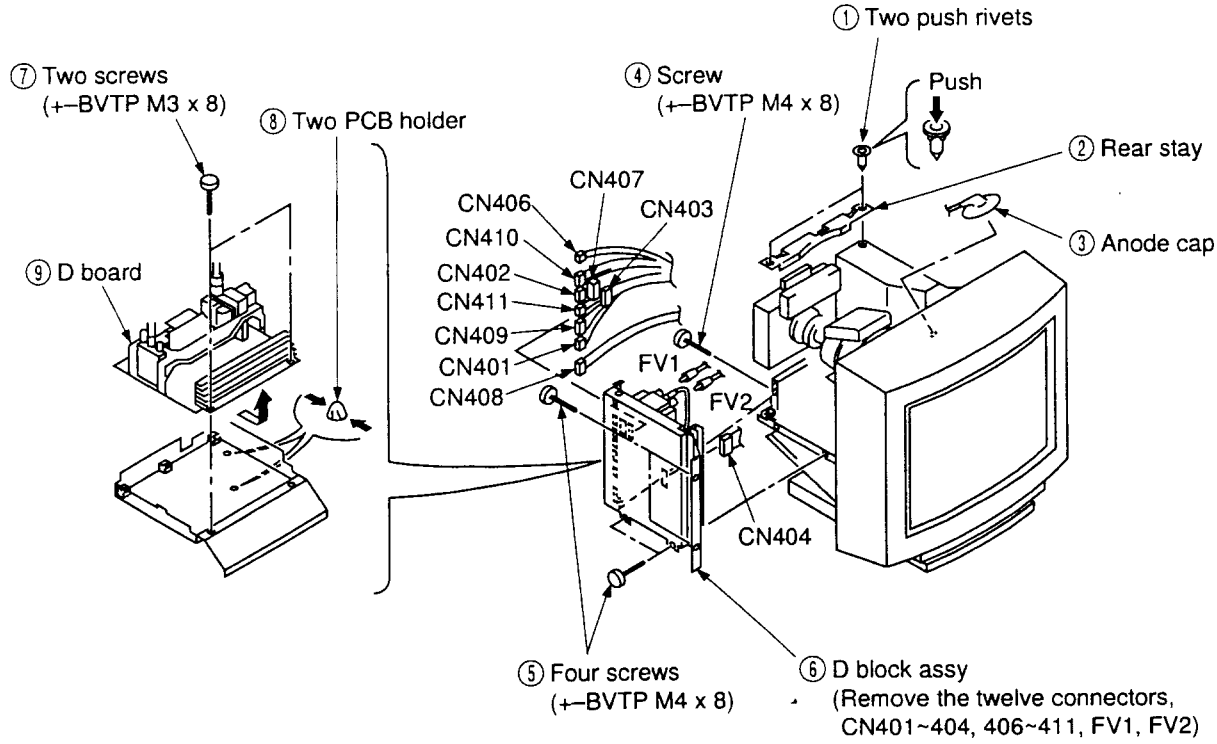
- The buttons on the front panel allow manual adjustment when a signal from equipment other than the preset-type models is input. Nine different manually adjusted data are stored in memory, and called back when the same signal is input again so that the optimum display for this signal is obtained automatically.
- The type of input video signal is distinguished according to its signal specifications, such as horizontal frequency or sync polarity. When the signal specifications of the input signals are almost same, these signals may not be distinguished as being different.
- If you use a computer or video board of high output level (about 1.0 Vp-p), you may not be able to obtain the optimum display. In such case, try decreasing the picture contrast (page 8).

SECTION 2
DISASSEMBLY

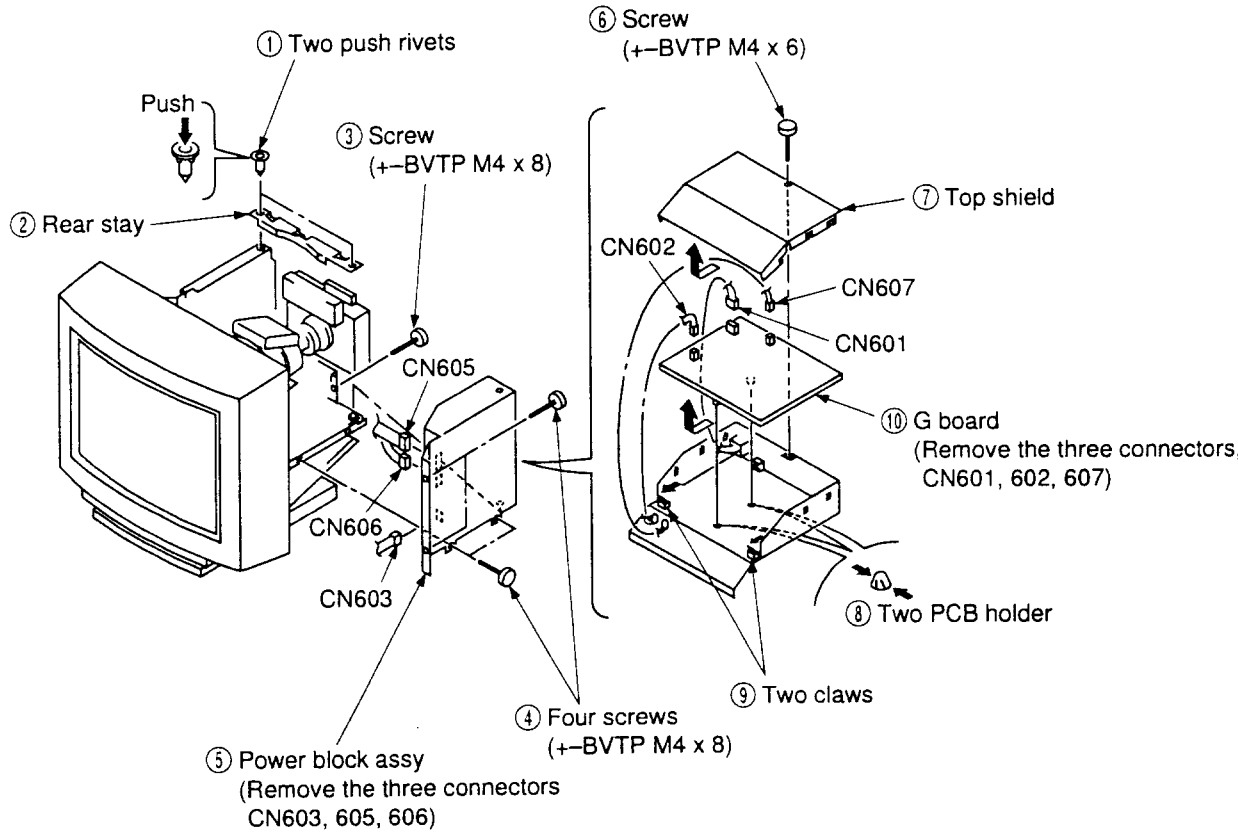
2-1. REAR CABINET AND TOP COVER REMOVAL



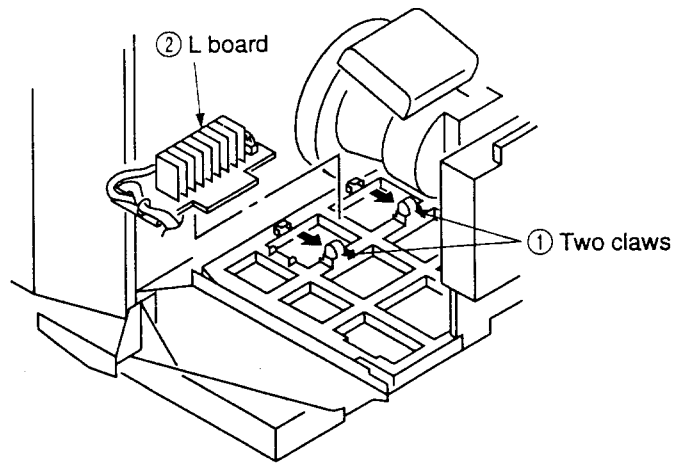
2-2. D BLOCK ASSY REMOVAL



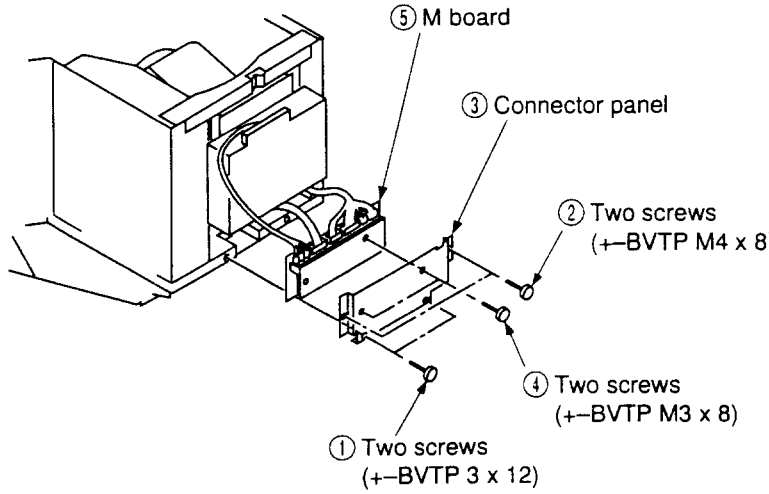
2-3. POWER BLOCK ASSY REMOVAL



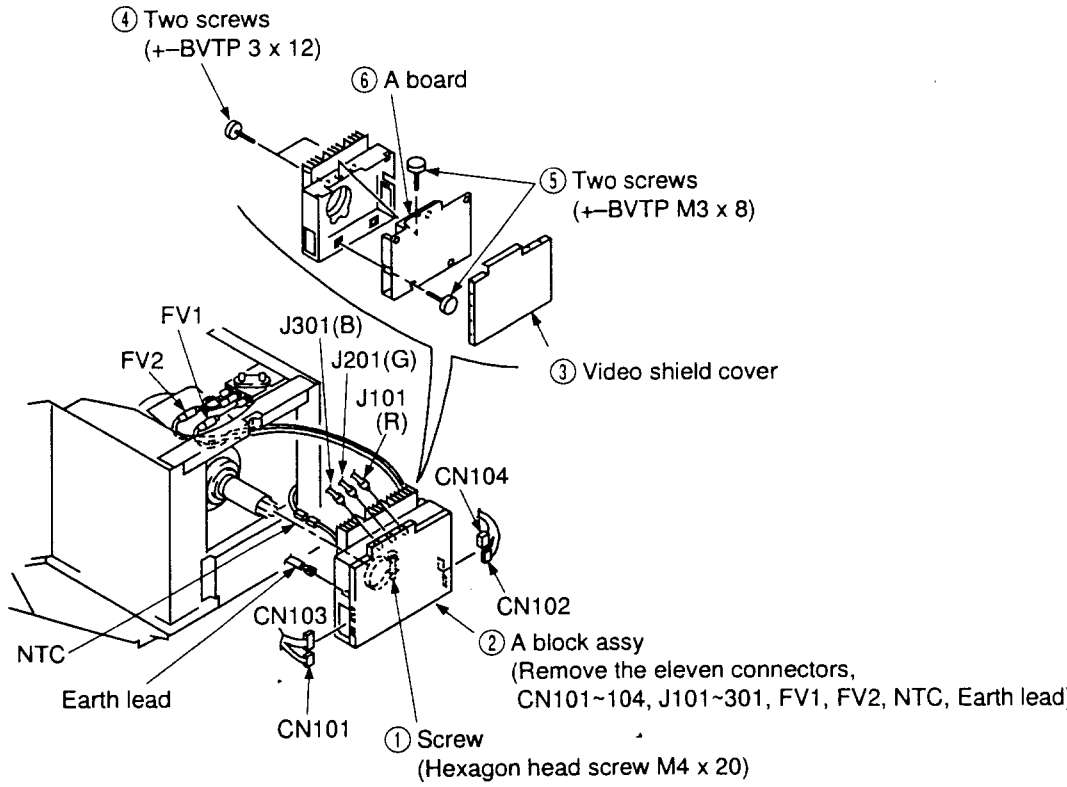
2-4. L BOARD REMOVAL



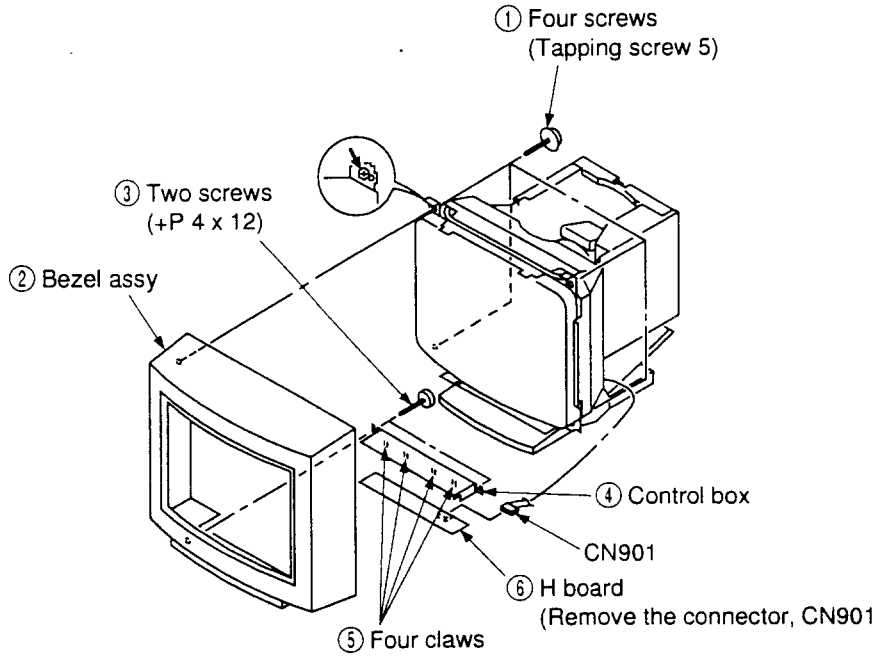
2-5. M BOARD REMOVAL



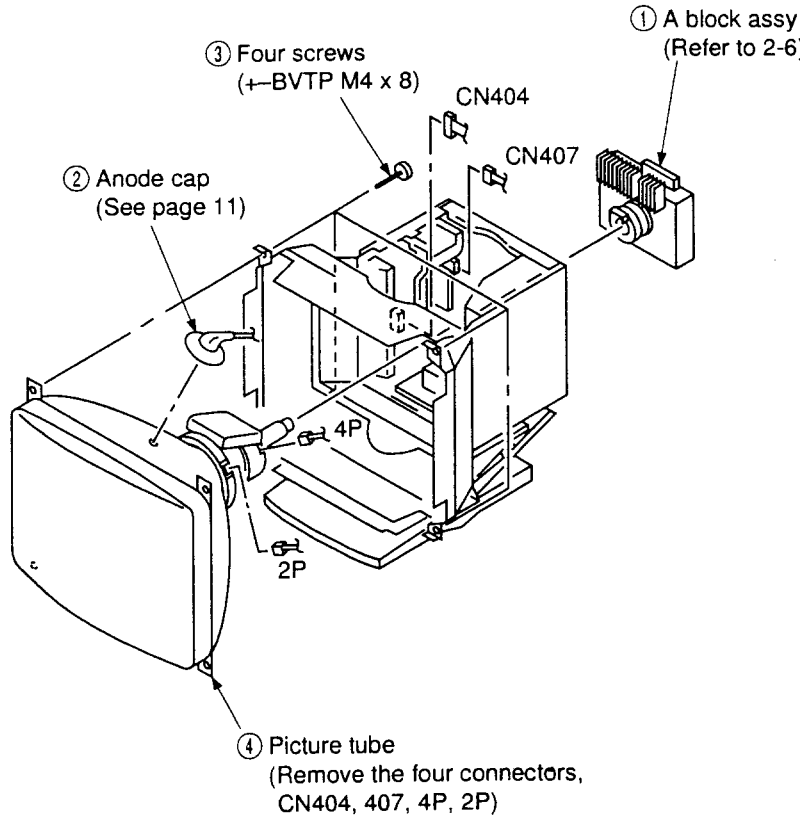
2-6. A BLOCK ASSY REMOVAL



2-7. H BOARD REMOVAL

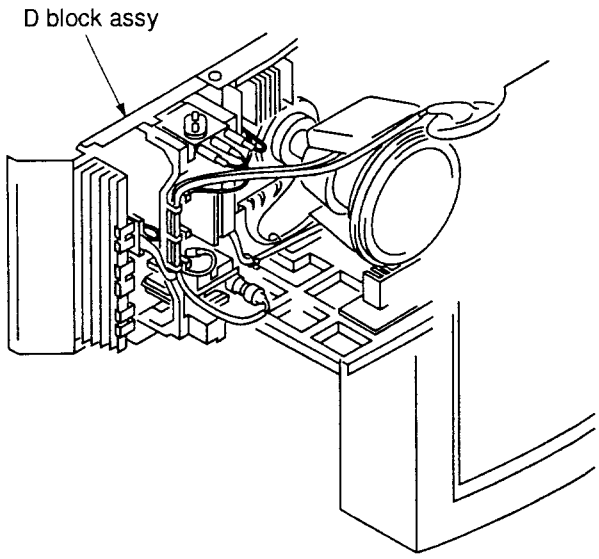


2-8. PICTURE TUBE REMOVAL

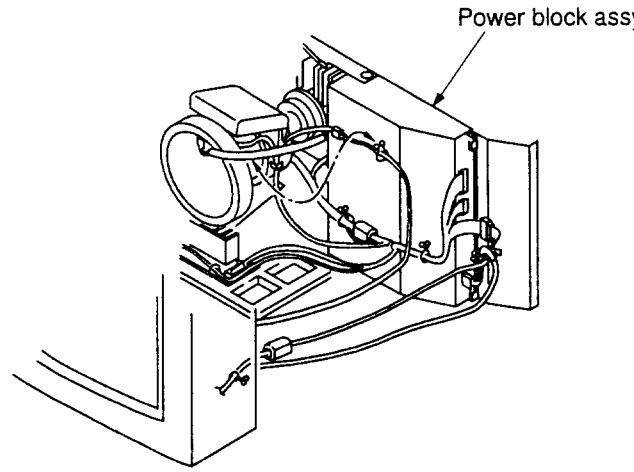


2-9. WIRING HARNESS LAYOUT

(1) Left Side



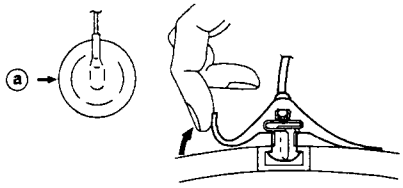
(2) Right Side



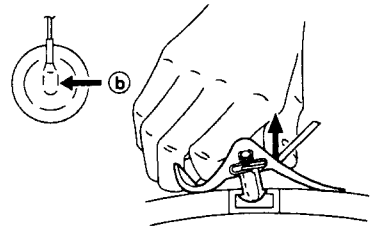
• REMOVAL OF ANODE-CAP

NOTE: Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon painted on the CRT, after removing the anode.

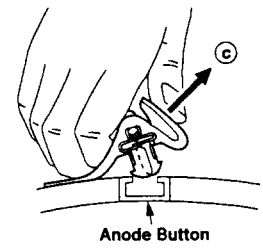
• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



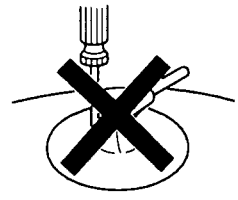
② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.

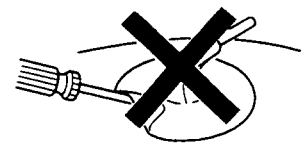


③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

• HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with shartp shaped material!
② Don't press the rubber hardly not to hurt inside of anode-caps! A material fitting called as shatter-hook terminal is built in the rubber.
③ Don't turn the foot of rubber over hardly! The shatter-hook terminal will stick out or hurt the rubber.





SECTION 3
SAFETY RELATED ADJUSTMENT

When replacing or repairing the shown below table, the following operational checks must be performed as a safety precaution against X-rays emissions from the unit.

HV Regulator Circuit Check	D board DA board	CP1, R099, R102, R105, T6 C104, C106, IC101, IC102, Q106, R102, R104, R105, R106, R130 • Mounted D board • Mounted DB board
HV Hold-Down Circuit Check	D board	C025, CP1, D9, D21, R099, R102, R104, R114, R115, R116, T6 • Mounted D board
Beam Current Protector Circuit ① and ② Check	D board	C068, C076, C079, C081, CP1, D021, D022, D024, D025, L009, R099, R102, R104, R105, R107, T6 • Mounted D board
B+ Regulator Circuit Check	G board	IC657, R673 • Mounted G board
OVP Circuit Check	G board	C654, D658, D659, IC657, Q654, R659, RY603 • Mounted G board

Check Condition

Input signal: White dots, fH:107 KHz BRT and CONT control to minimum.

a) HV Regulator Check

1) Check that the voltage at pin ⑦ of N405 is 9.00 ± 0.03 VDC.

b) HV Hold-Down Circuit Check

1) Using an external DC power supply, apply the voltage is less than 8.87 VDC between pin ⑤ of CN405 on D board and confirm that the HV Hold-Down circuit works (Raster disappears or Power LED blinks.)

c) Beam Current Protector Circuit Check-1

1) Short between pin ⑤ of CN405 on D board and GND by a short clip under Power off condition.
2) Confirm that the raster appears on the CRT screen under Power on condition.
3) Connect a variable resistor (12 KΩ or more) and an ammeter in series between pin ④ of CN405 on D board and GND, then decrease gradually the resistance of the variable resistor from maximum to minimum, and confirm that the beam current protector circuit-1 works (TV Raster disappears or Power LED blinks).
   The current must be less than 1.35 mA.
4) Remove the short clip between pin ⑤ of CN405 on D board and GND.

d) Beam Current Protector Circuit Check-2

1) Confirm that the raster appears on the CRT screen under Power on condition.
2) Connect a variable resistor (12 KΩ or more) and an ammeter in series between pin ④ of CN405 on D board and GND, then decrease gradually the resistance of the variable resistor from maximum to minimum, and confirm that the beam current protector circuit-2 works (TV Raster disappears or Power LED blinks).
   The current must be less than 1.50 mA.

e) OVP Circuit Check

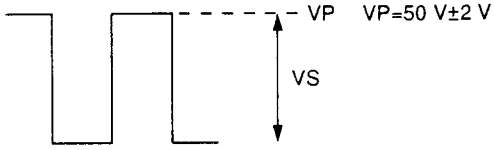
1) Using an external DC power supply, increase gradually the voltage between pin ① of CN605 on G board and GND, and confirm that the OVP circuit works (TV Raster disappears when the voltage between pin ① of CN605 on G board and GND is less than 199.0 VDC.

SECTION 4
ADJUSTMENTS

Input Signals: SONY-STD-2 (63.337 kHz x 59.978 kHz, 1280 x 1024)

1. Confirming VIDEO output waveform, and adjusting RV101, 201, 301

1) Enter the full white signal.
2) Set the R/G/B contrast data to "00", and confirm at the KR, KG, KB pins of CRT socket that the pedestal voltage is as shown below.

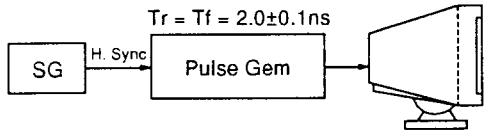


3) Set the R/G/B contrast data to "FF", connect an oscilloscope to the KR, KG, KB pins of CRT socket, and adjust the RV101, 201, 301, so that the VIDEO output waveform Vs satisfies the following specification.

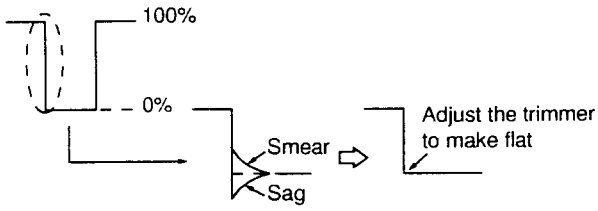
Vs KR : 42 Vp-p ± 1 Vp-p
KG, KB : 40 Vp-p ± 1 Vp-p

2. Confirming and adjusting transient response

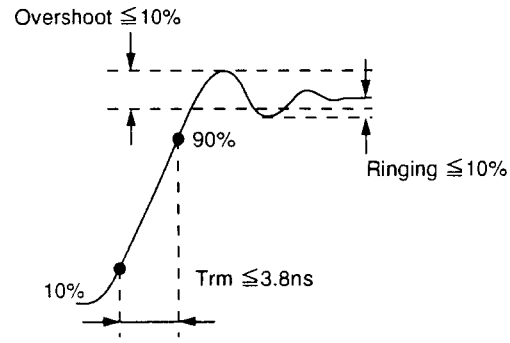
1) Connect respective measuring units as shown below.



2) Enter the pulse signals from pulse generator to R input and set contrast data to "FF".
3) Connect an oscilloscope probe to KR, set the time axis to 20 ms/div, and adjust the CT101 not to allow a sag or smear in the falling edge of waveform.



4) Press the x10MODE button of time axis on oscilloscope, and confirm that the Tr, Tf, undershoot, overshoot, and ringing of waveform are within the specification.
5) If the undershoot is over the specification, readjust the trimmer so that the undershoot is below 12%.



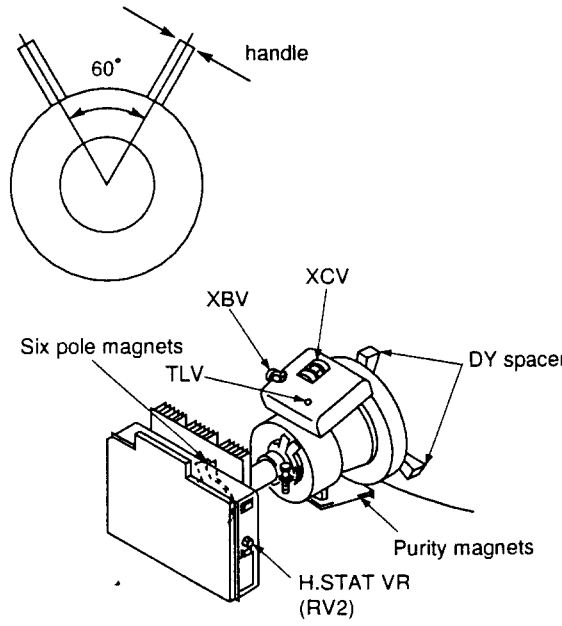
6) Also for the KG and KB pins of CRT socket, perform adjustment given in steps (2) to (5) in the same manner.
(For the KG, adjust CT201; for the KB, adjust CT301)

● Landing Rough Adjustment

1. Enter the full white signal.
2. Adjust the contrast to the maximum.
3. Make the screen monogreeen. (turn off R, B input signals).
4. Reverse the DY, and adjust coarsely the purity magnet so that a green raster positions in the center of screen.
5. Moving the DY forward, adjust so that an entire screen becomes monogreen.
6. Adjust the tilt of DY, and fix lightly with a clamp.

● Convergence Rough Adjustment

1. Enter the white crosshatch signal.
2. Open the hexode knob mounted at the CRT neck to 60°.
3. Adjust coarsely the horizontal convergence using the H-STAT VR on the board A.
4. Adjust coarsely the vertical convergence through the V-STAT bus adjustment.

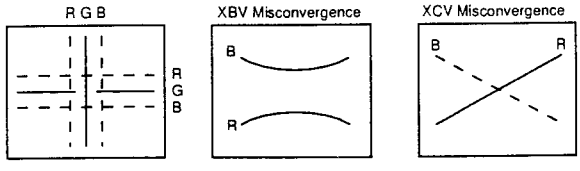


● Landing Fine Adjustment

1. Place the set in the Helmholtz coil.
2. Enter a green signal only, and adjust the contrast to the maximum.
3. Attach a wobbling coil to the specified position of CRT neck.
4. Attach a landing adjuster sensor on the CRT.
5. Using a landing checker, adjust the DY position, purity, tilt of DY, and landing at the center and four corners.
6. Remove the landing adjuster sensor.
7. Swing up and down the DY so that the top and bottom pins are equal. Also, swing left and right the DY so as to attain the best horizontal trapezoid, and insert wedges in the form of reverse "Y" to secure the DY.
8. Attach a landing adjuster sensor on the CRT.
9. Confirm the landing at each corner, and if out of specification, stick a disk magnet to the funnel section, and perform adjustment.
10. Change over the input signal to R, G, B and confirm that the purity of monocolor is good.
11. Confirm that the DY is not tilted, then fix the purity magnet with a white pen.

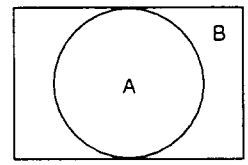
● Convergence Fine Adjustment

1. Enter the white crosshatch signal of the mode 3.
2. Confirm that the V-STAT and H-STAT for the user control are in the center.
3. Adjusting the RV-2 (H-STAT VR) on the board A, make red, green, and blue lines parallel (vertical lines). Through the bus adjustment, adjust the V-STAT to make red, green, and blue lines parallel (horizontal line).
4. Adjust the magnet ring (hexode) at the rear of NTC so that the distance between red and green, and the distance between blue and green of three color lines are equal. If the compensation is deficient, adjust additionally the magnet ring at the rear of DY.
5. Returning the H-STAT VR and the V-STAT bus control adjusted in step 3, eliminate a misconvergence in the center of creen.
6. Fine adjustment of convergence
   1) Adjust the XBV misconvergence with the XBV reactor.
   2) Adjust the XCV misconvergence with the XCV reactor.
   3) Adjust the Vertical misconvergence with the TVL.
   4) Confirm the convergence of entire screen.
   5) Fix the XBV, XCV, hexode, and H-STAT VR with a white pen.



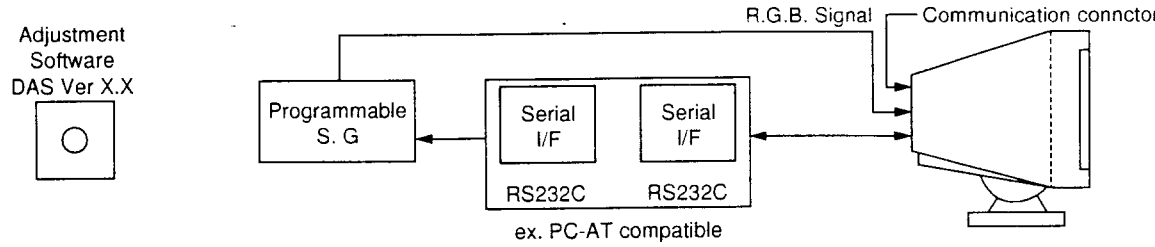
● Digital Convergence Fine Adjustment

1. Enter the white crosshatch signal of the mode 3.
2. Connect only the R and B signals.
3. Adjustment of NTC (bus adjustment)
   1) Adjust the center convergence of screen with the V-STAT.
   2) Adjust the bottom convergence of screen with the NTC BOTTOM.
   3) Adjust the top convergence of screen with the NTC TOP.
4. H-CONV. adjustment (bus adjustment)
   1) Set the bus data H-STAT to 148 (94h), and adjust the H-STAT with the H-STAT VR on the board A.
   2) Adjust the convergence at the position as shown in the order of numbers.
   3) The H-STAT, if finely adjusted again, should be in the range of 120 to 168.
   4) Save the data.
   5) Although the adjustment is executed for the signals other than mode 3, the factory area for V-STAT and H-STAT is common to all modes, and therefore, do not change the V-STAT and H-STAT after they are adjusted in the mode 3.
   6) Copy the bus data of mode 3 to all modes.
   7) Execute adjustment in all modes in the same manner as that in 4-2).
   8) After the adjustment is over, save the data.
   9) If out of specification 0.24 mm or less, adjust using a sheet of permalloy. (Replace the DY, if more than five sheets are required.)



A	Prime mode 0.24 mm Others 0.24 mm
B	Prime mode 0.24 mm Others 0.28 mm

Connect the communication cable of the computer to the connector located on the D board on the monitor. Run the service software and then follow the instruction.



● White Balance Adjustment Methods

Adjustments procedure	Input signal	Value of CONT, BRT	Adjust point
ADJUSTMENT G2			
1		COLOR Mode "H"	
2	Grayscale pattern	CONT=255, BRT=85	G2
ADJUSTMENT 9300K			
1	Gray scale	RBKC, BBKC to 0 CONT=255, BRT=85	GBKC
2	Gray scale	CONT=255, BRT=85	RBKC, BBKC
3	Full white pattern	CONT=255, BRT=85	RDCM, GDCM, BDCM
4	Full white pattern	CONT=0, BRT=85	RDCN, GDCN, BDCN
5	Black pattern	CONT=0, BRT=255	RBKM, GBKM, BBKM
6	Full white pattern	CONT=255, BRT=255	RDMM, GDMM, BDMM
7	Confirm white balance tracks with CONT and BRT. Set CONT=255 and BRT=85 color save		
ADJUSTMENT 6500K			
1	COPY 9300K data to 6500K. Select color mode to "MID"		
2	Gray pattern	CONT=255, BRT=85	RBKC, BBKC
3	Full white pattern	CONT=255, BRT=85	GDCM, BDCM
4	Full white pattern	CONT=0, BRT=85	GDCN, BDCM
5	Black pattern	CONT=0, BRT=255	RBKM, GBKM, BBKM
6	Full white pattern	CONT=255, BRT=255	RDMM, GDMM, BDMM
7	Confirm white balance tracks with CONT and BRT. Set CONT=255 and BRT=85 color save		
ADJUSTMENT 5000K			
1	COPY 9300K data to 5000K. Select color mode to "LOW"		
2	Gray pattern	CONT=255, BRT=85	RBKC, BBKC
3	Full white pattern	CONT=255, BRT=85	GDCM, BDCM
4	Full white pattern	CONT=0, BRT=85	GDCN, BDCN
5	Black pattern	CONT=0, BRT=255	RBKM, GBKM, BBKM
6	Full white pattern	CONT=255, BRT=255	RDMM, GDMM, BDMM
7	Confirm white balance tracks with CONT and BRT. Set CONT=255 and BRT=85 color save		

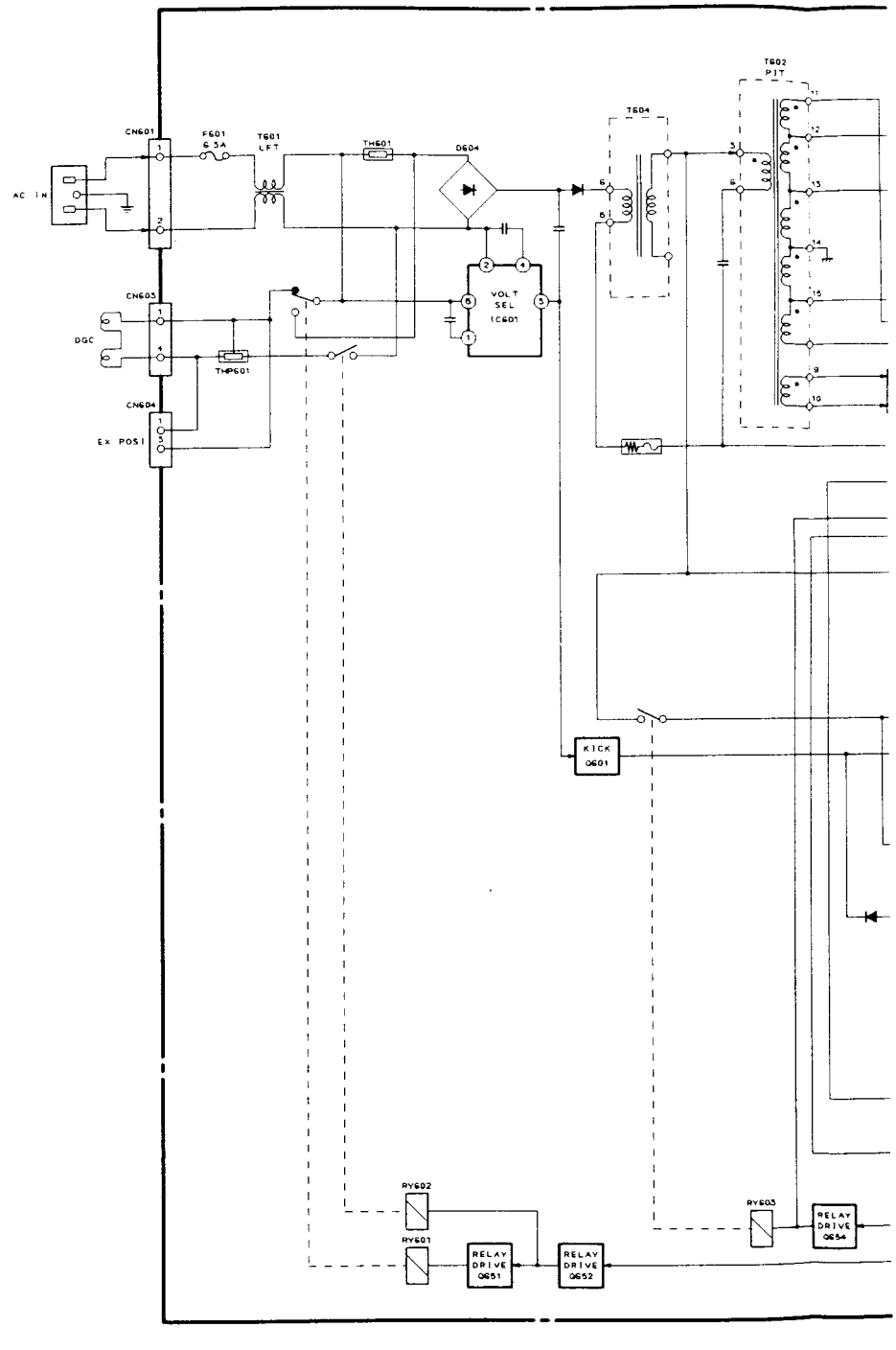
● DIAGNOSIS

The monitor is equipped with self diagnosis and failure indication. Indicators will blink when the monitor detects adjustment limit or a major failure.

	LED / State	CONVER	SHAPE	SIZE	CENTER	Power Save (Amber)	Power (Green)
Power ON	Normal	OFF	OFF	OFF	OFF	OFF	ON
NO. H Sync	Stand-by	OFF	OFF	OFF	OFF	ON	ON
NO. V Sync	Suspend	OFF	OFF	OFF	OFF	ON	ON
NO. H/V Sync	Active off	OFF	OFF	OFF	OFF	ON	OFF
Out of Range	Out of Range	OFF	OFF	OFF	OFF	ON	Flashing
H. Failure	Failure	OFF	OFF	OFF	ON	Flashing	Flashing
V. Failure	Failure	OFF	OFF	ON	OFF	Flashing	Flashing
IK Protector	Failure	OFF	ON	OFF	OFF	Flashing	Flashing
HV Protector	Failure	ON	OFF	OFF	OFF	Flashing	Flashing

SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAMS



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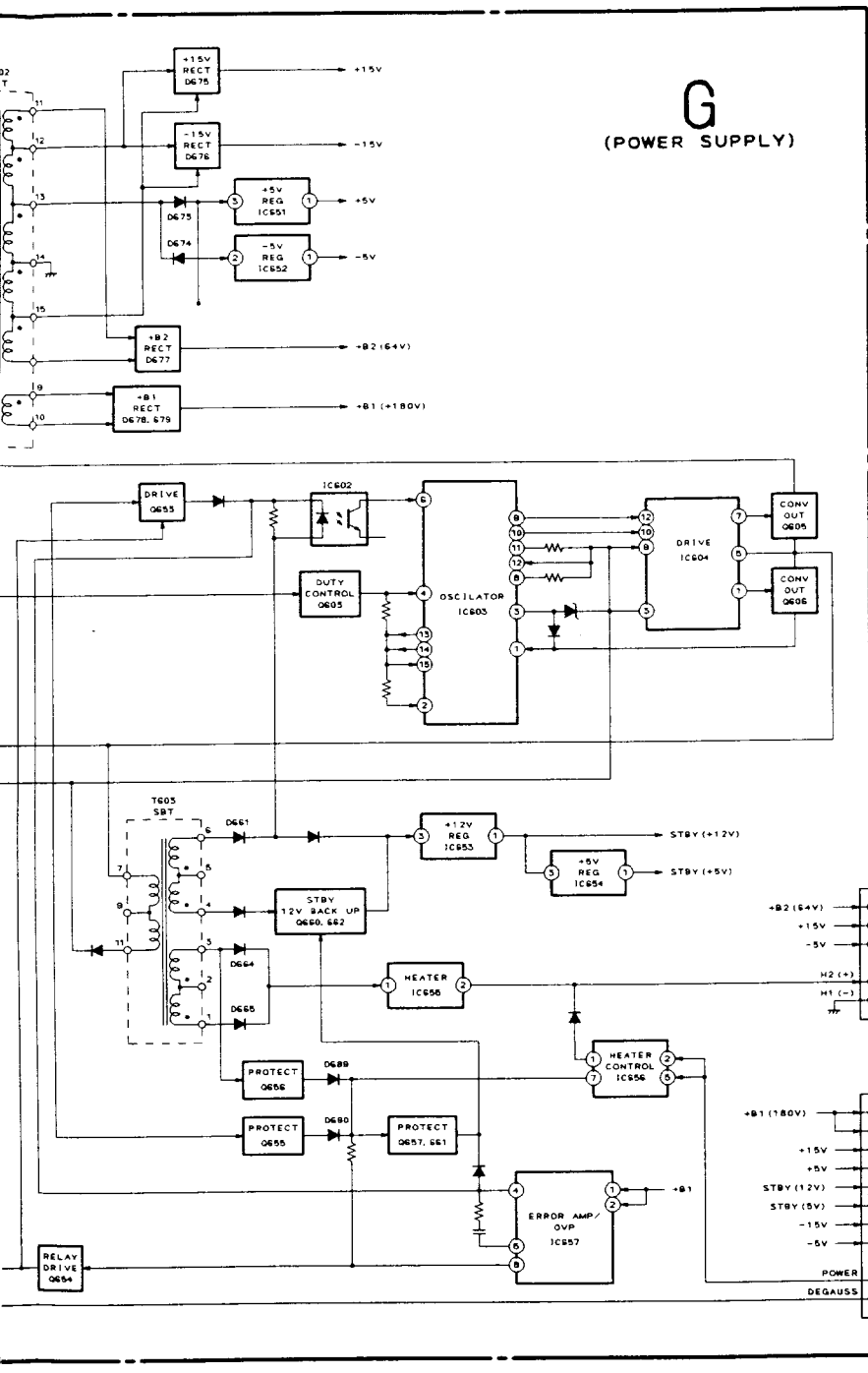
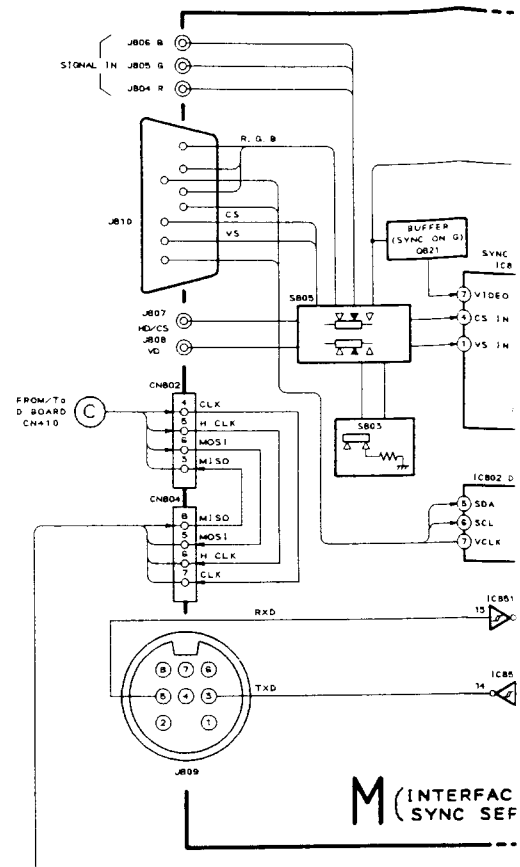
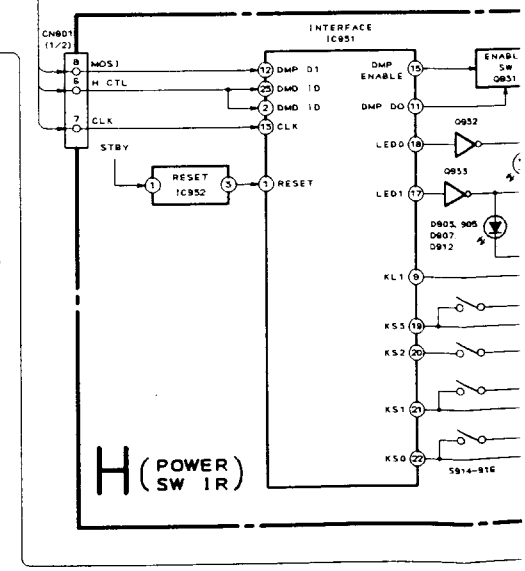
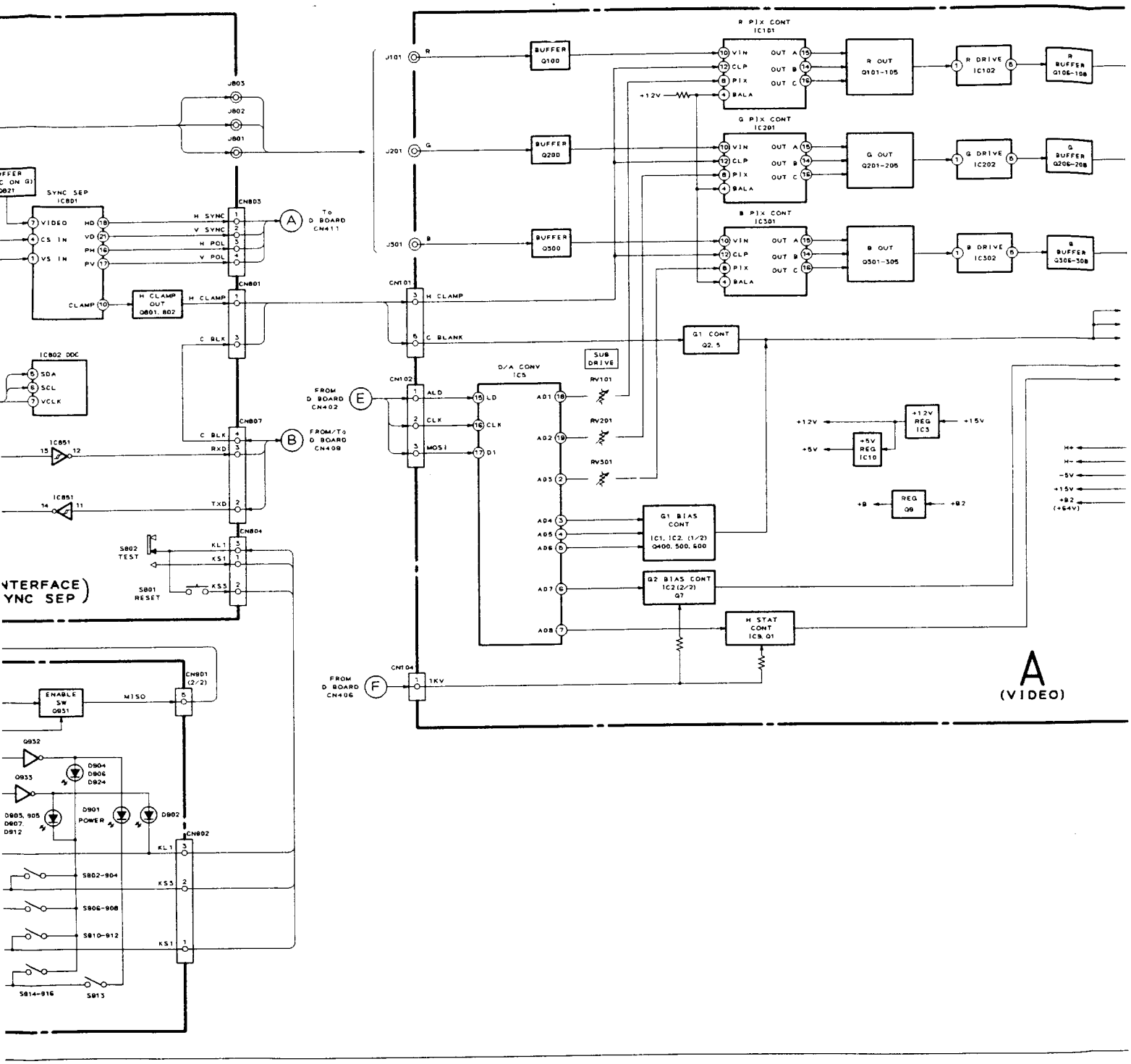
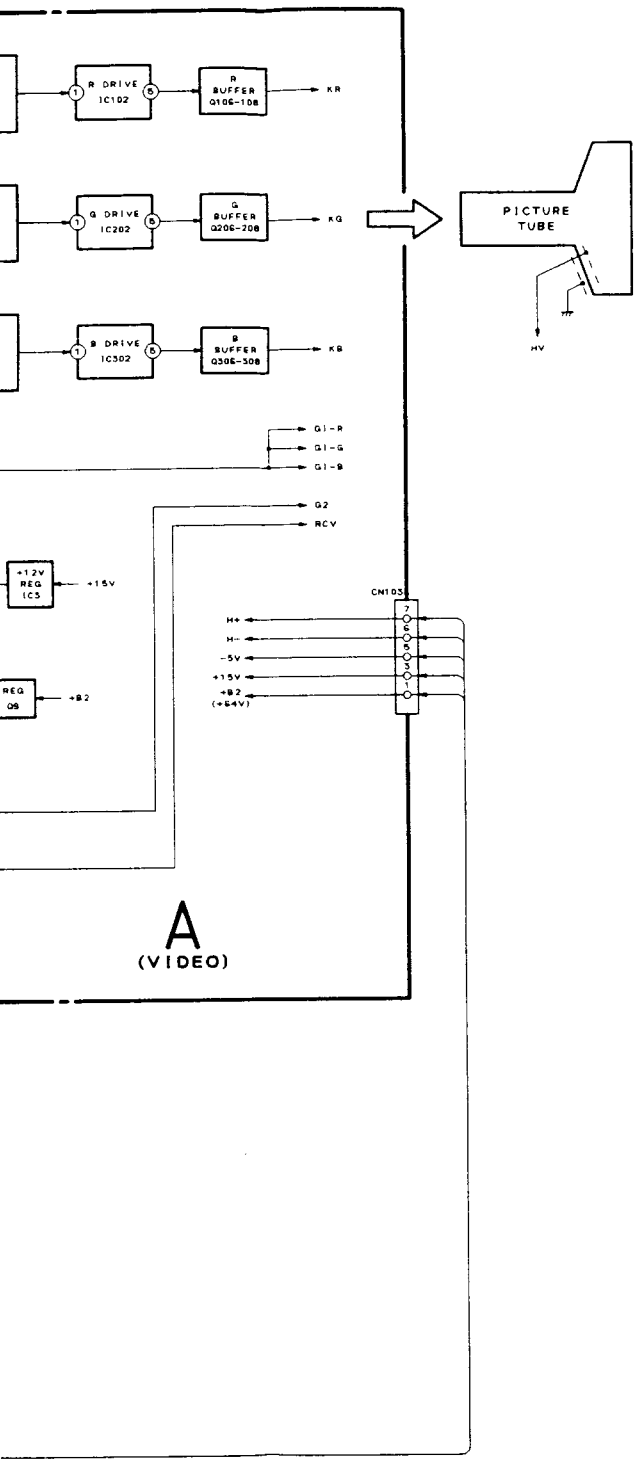
Fax (01844) 352554
email:- mauritron@dial.pipex.com

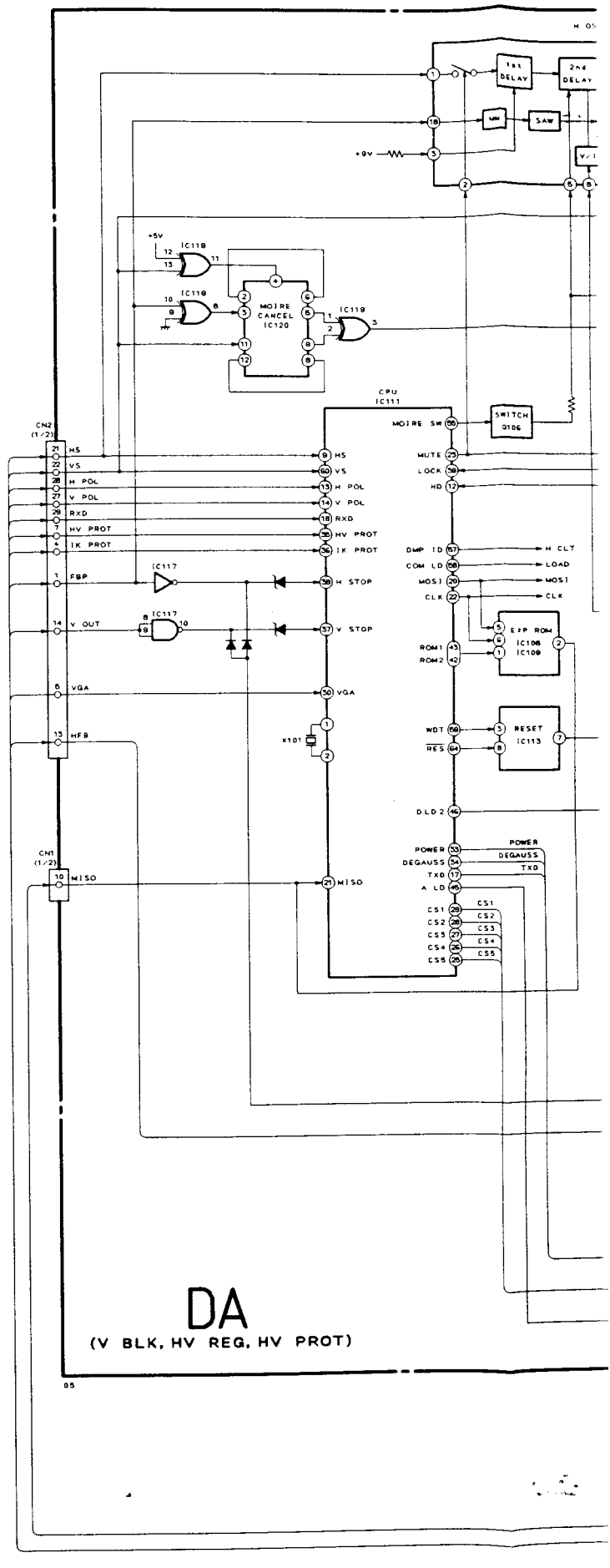


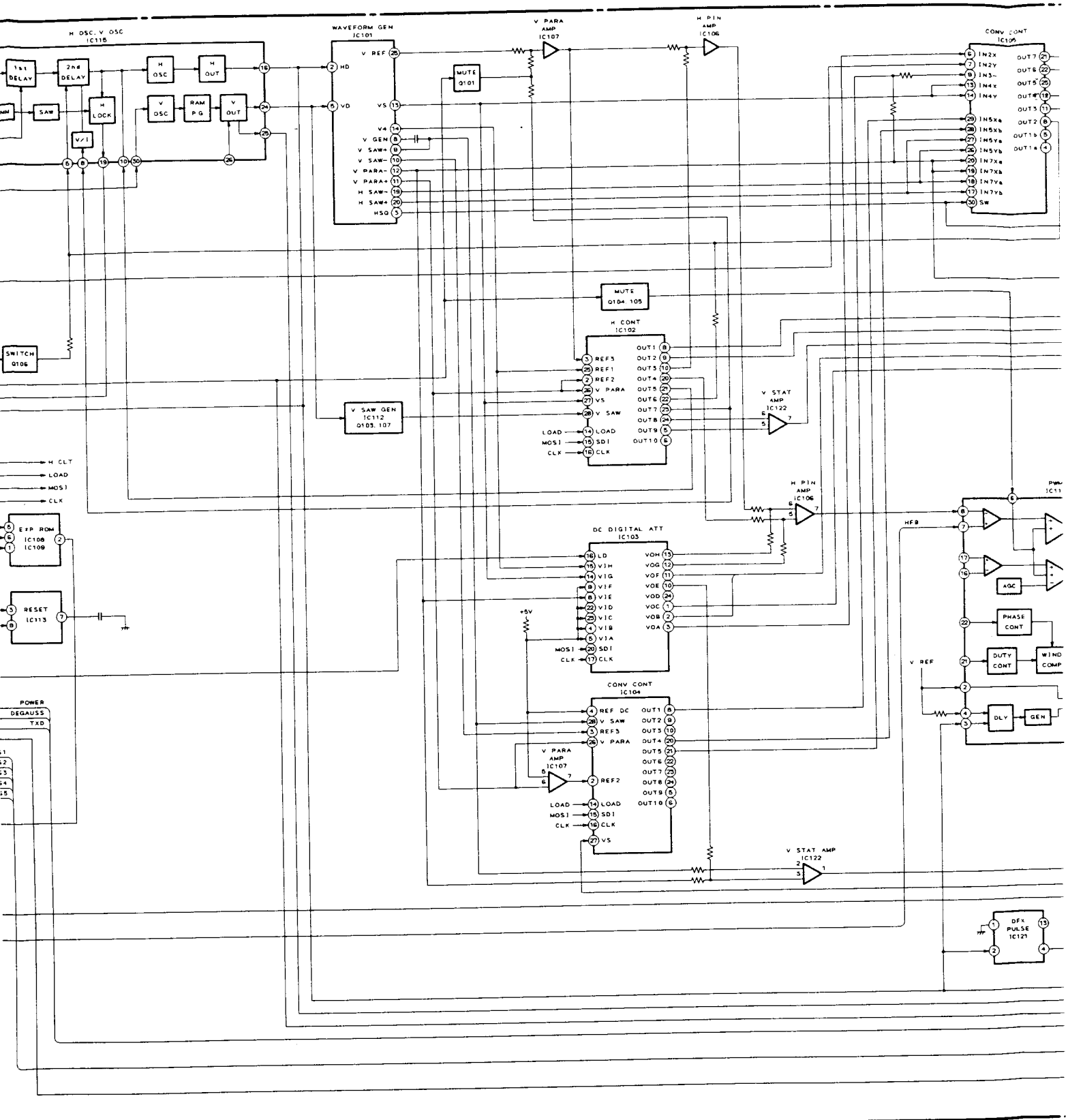


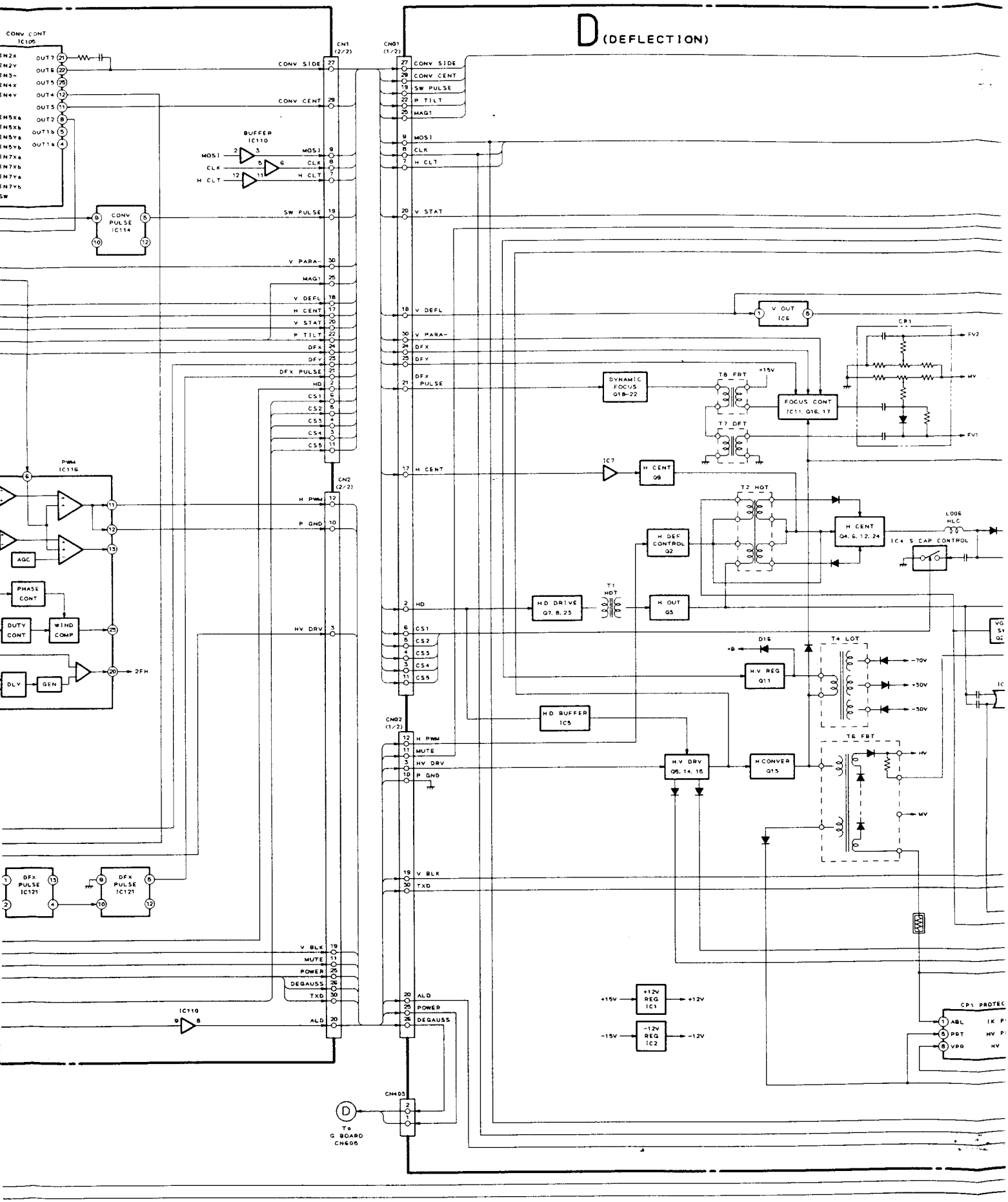


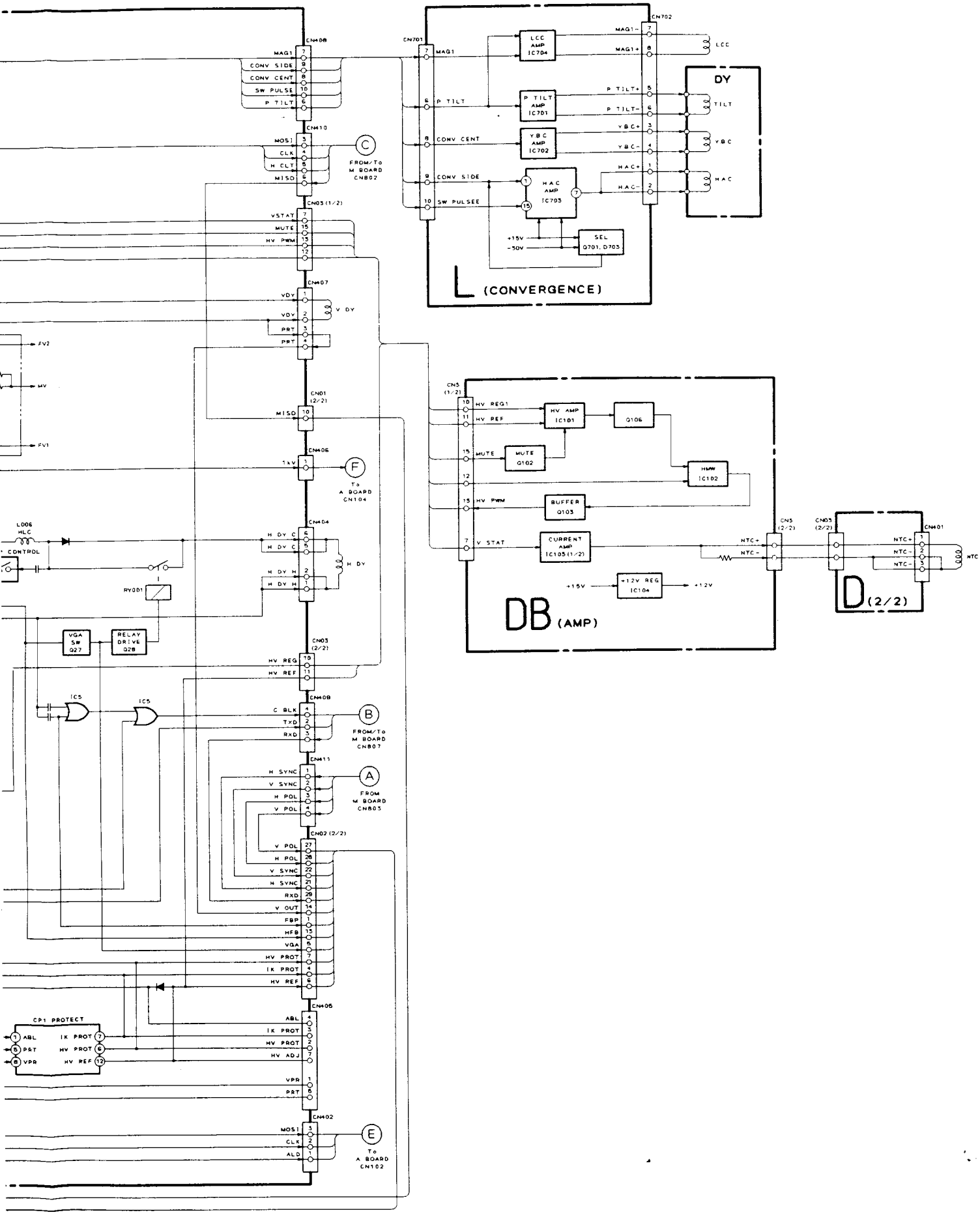

R PIX CONT IC101
G PIX CONT IC201
B PIX CONT IC301
BUFFER Q100
BUFFER Q200
BUFFER Q300
R OUT Q101-105
G OUT Q201-205
B OUT Q301-305
R DRIVE IC102
G DRIVE IC202
B DRIVE IC302
R BUFFER Q106-108
G BUFFER Q206-208
B BUFFER Q306-308
SYNC SEP IC801
H CLAMP OUT Q801, 802
IC802 DDC
D/A CONV IC5
SUB DRIVE
G1 CONT Q2, 5
G1 BIAS CONT IC1, IC2, (1/2) Q400, 500, 600
G2 BIAS CONT IC2 (2/2) Q7
H STAT CONT IC9, Q1
+12V REG IC3
+5V REG IC10
REG Q8
FROM D BOARD CN402
FROM/TO D BOARD CN408
To D BOARD CN411
FROM D BOARD CN406
A
(VIDEO)


R DRIVE IC102
R BUFFER Q106-108
KR
G DRIVE IC202
G BUFFER Q206-208
KG
B DRIVE IC302
B BUFFER Q306-308
KB
PICTURE TUBE
HV
G1-R
G1-G
G1-B
G2
RCV
+12V REG IC5
+15V
CN103
H+
H-
-5V
+15V
+B2
(+64V)
A
(VIDEO)

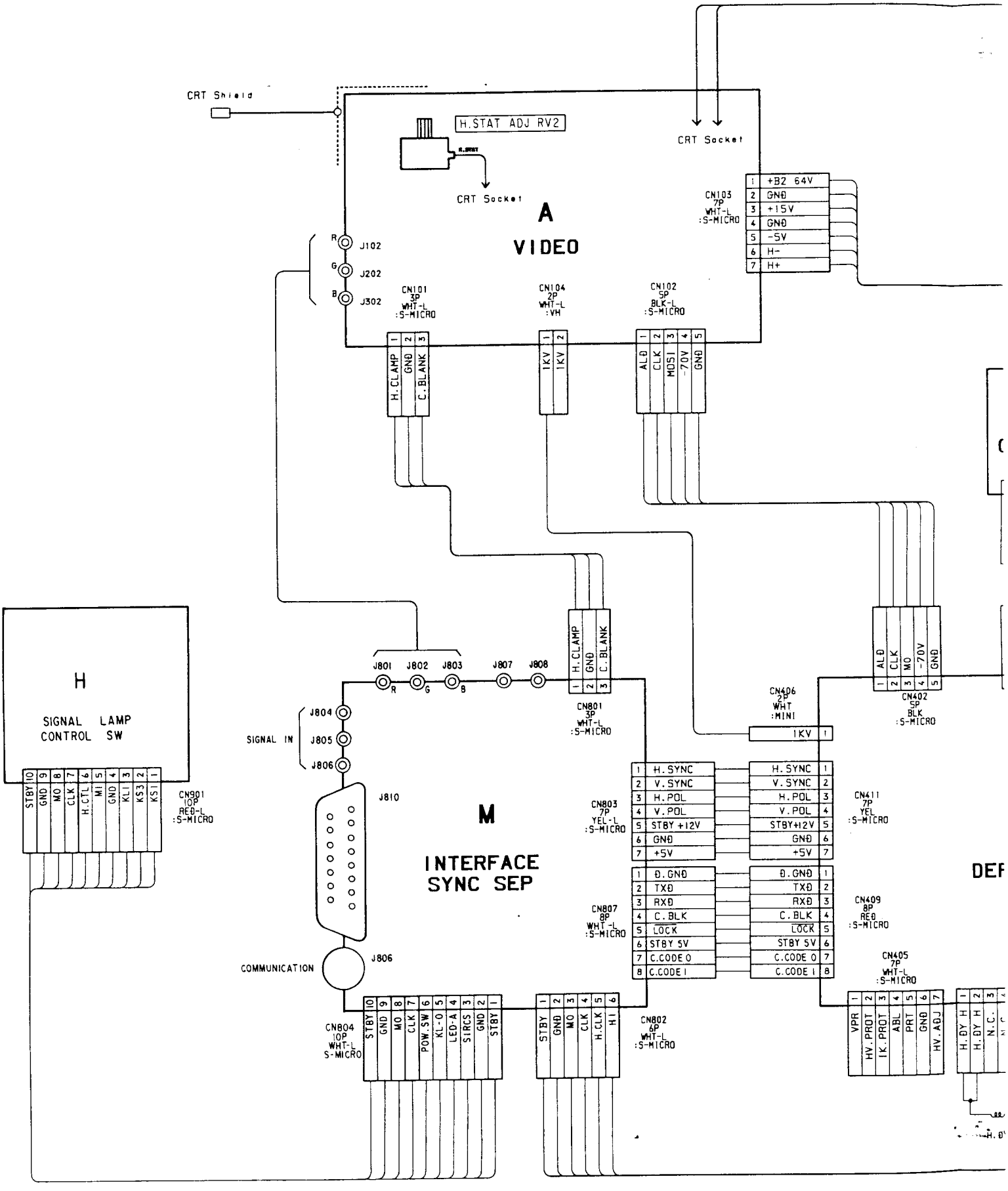

DA
(V BLK, HV REG, HV PROT)
CPU IC111
MOIRE CANCEL IC120
IC119
IC117
SWITCH
RESET IC113
EEP ROM IC108 IC109
CN2 (1/2)
CN1 (1/2)
HS
VS
H POL
V POL
RXD
HV PROT
IK PROT
FBP
V OUT
VGA
HFB
MISO
H STOP
V STOP
MUTE
LOCK
HD
DMP ID
COM LD
MOSI
CLK
ROM1
ROM2
WDT
RES
D.LD 2
POWER
DEGAUSS
TXD
A LD
CS1
CS2
CS3
CS4
CS5
X101
+5V
+9V

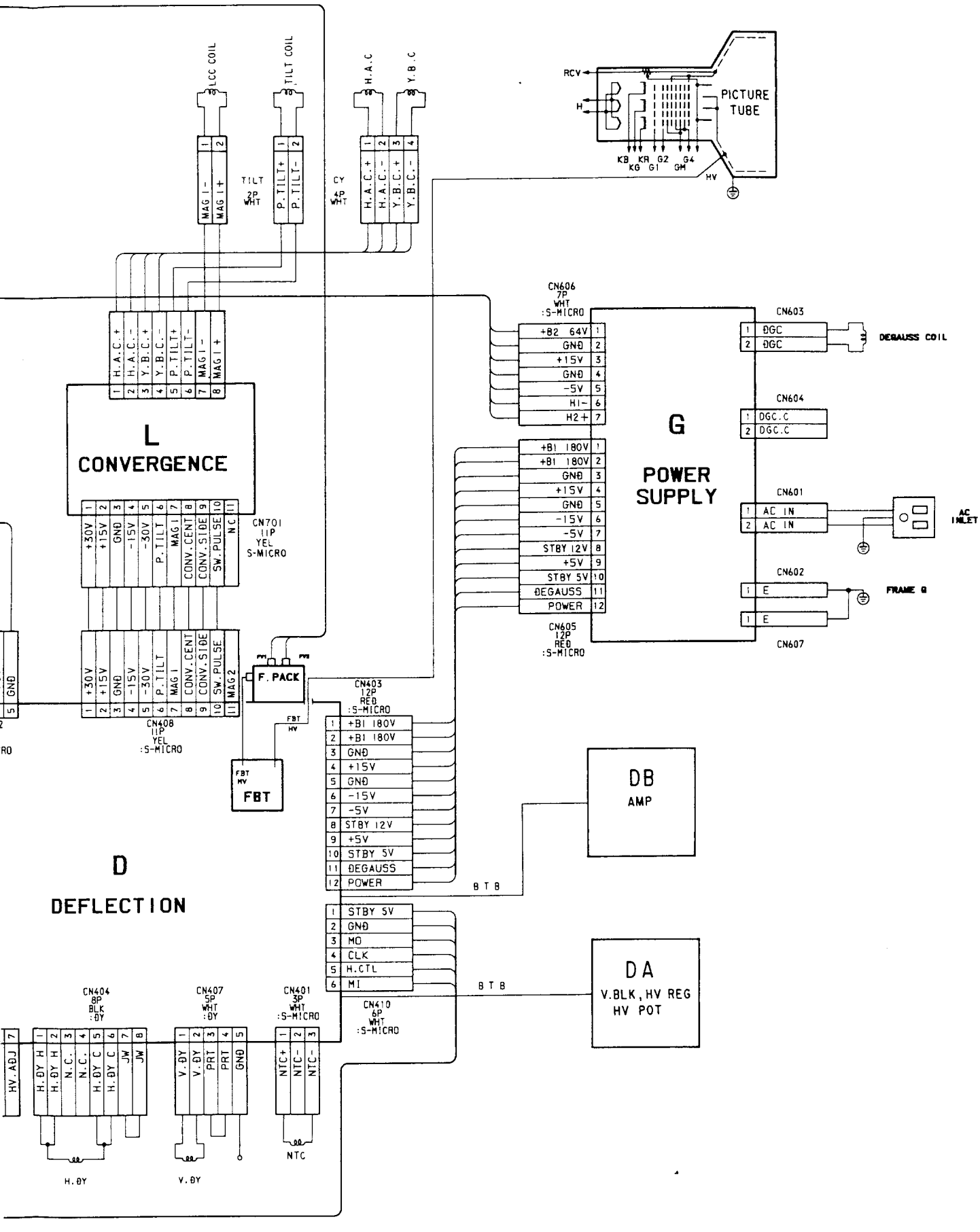

H OSC, V OSC
IC118
1st DELAY
2nd DELAY
SAW
H LOCK
V/I
H OSC
H OUT
V OSC
RAM PG
V OUT
WAVEFORM GEN
IC101
V REF
HD
VD
VS
V4
V GEN
V SAW+
V SAW-
V PARA-
V PARA+
H SAW-
H SAW+
HSQ
V PARA AMP IC107
H PIN AMP IC106
MUTE Q101
CONV CONT IC105
IN2x
IN2y
IN3-
IN4x
IN4y
IN5xa
IN5xb
IN5ya
IN5yb
IN7xa
IN7xb
IN7ya
IN7yb
SW
OUT7
OUT6
OUT5
OUT4
OUT3
OUT2
OUT1b
OUT1a
MUTE Q104 105
H CONT IC102
REF3
REF1
REF2
V PARA
VS
V SAW
LOAD
SDI
CLK
OUT1
OUT2
OUT3
OUT4
OUT5
OUT6
OUT7
OUT8
OUT9
OUT10
V STAT AMP IC122
SWITCH Q106
V SAW GEN IC112 Q103, 107
H CLT
LOAD
MOSI
CLK
E²P ROM IC108 IC109
RESET IC113
DC DIGITAL ATT IC103
LD
VIH
VIG
VIF
VIE
VID
VIC
VIB
VIA
VOH
VOG
VOF
VOE
VOD
VOC
VOB
VOA
+5V
CONV CONT IC104
REF DC
V SAW
REF3
V PARA
REF2
V STAT AMP IC122
POWER
DEGAUSS
TXD
HFB
AGC
PHASE CONT
DUTY CONT
WIND COMP
DLY
GEN
V REF
DFX PULSE IC121


D (DEFLECTION)
CONV CONT IC105
CN1 (2/2)
CN01 (1/2)
CONV SIDE
CONV CENT
SW PULSE
P TILT
MAG1
MOS1
CLK
H CLT
V STAT
V PARA-
V DEFL
H CENT
DFX
DFY
DFX PULSE
HD
CS1
CS2
CS3
CS4
CS5
BUFFER IC110
CONV PULSE IC114
PWM IC116
AGC
PHASE CONT
DUTY CONT
WIND COMP
DLY
GEN
2FH
HV DRV
CN2 (2/2)
H PWM
P GND
CN02 (1/2)
MUTE
V BLK
TXD
ALD
POWER
DEGAUSS
DFX PULSE IC121
IC110
CN403
T6 G BOARD CN606
V OUT IC6
DYNAMIC FOCUS Q18-22
T8 FBT
T7 DFT
+15V
FOCUS CONT IC11, Q16, 17
CR1
FV2
HV
FV1
IC7
H CENT Q9
T2 HOT
H DEF CONTROL Q2
H CENT Q4, 6, 12, 24
LOOP HLC
IC4 S CAP CONTROL
T1 HDT
HD DRIVE Q7, 8, 23
H OUT Q5
D16
+B
H.V REG Q11
T4 LOT
-70V
+30V
-50V
HD BUFFER IC5
T5 FBT
H.V DRV Q5, 14, 15
H CONVER Q13
+12V REG IC1
-12V REG IC2
+12V
-12V
CP1 PROTEC
ABL
PBT
VPR

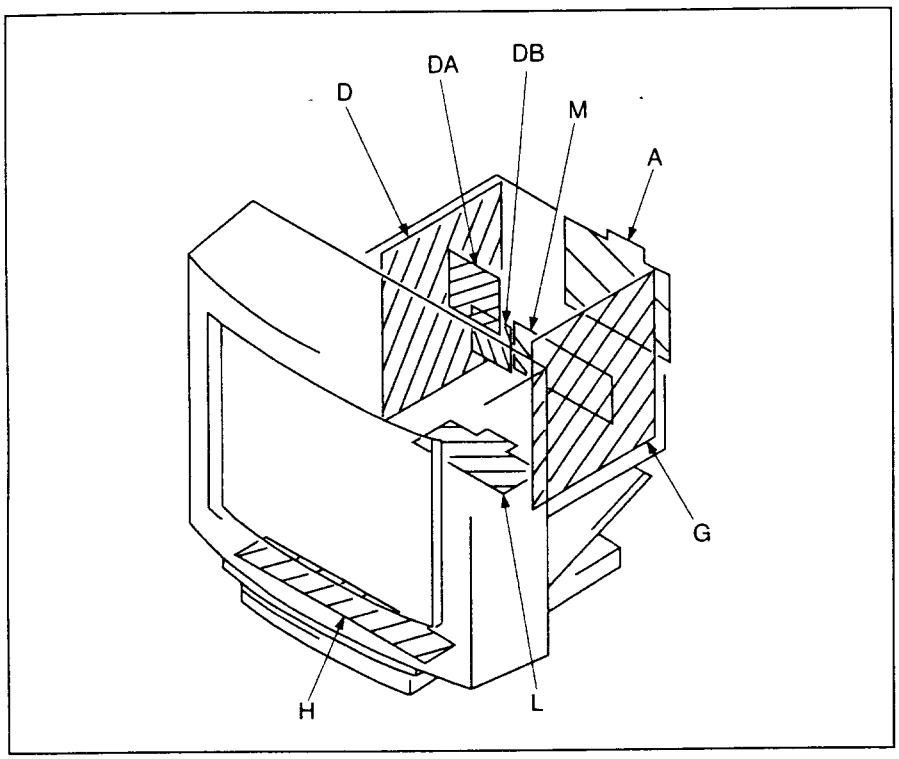

CN408
MAG1
CONV SIDE
CONV CENT
SW PULSE
P TILT
CN410
MOSI
CLK
H CLT
MISO
FROM/To M BOARD CN802
CN403 (1/2)
VSTAT
MUTE
HV PWM
CN407
VDY
V DY
PRT
FV2
MV
FV1
CN401 (2/2)
MISO
CN406
1kV
To A BOARD CN104
L006 HLC CONTROL
CN404
H DY C
H DY H
H DY
RY001
VGA SW Q27
RELAY DRIVE Q28
CN403 (2/2)
HV REG
HV REF
IC5
IC5
CN408
G BLK
TXD
RXD
FROM/To M BOARD CN807
CN411
H SYNC
V SYNC
H POL
V POL
FROM M BOARD CN803
CN402 (2/2)
V POL
H POL
V SYNC
H SYNC
RXD
V OUT
FBP
HFB
VGA
HV PROT
IK PROT
HV REF
CP1 PROTECT
ABL
P&T
VPR
IK PROT
HV PROT
HV REF
CN405
ABL
IK PROT
HV PROT
HV ADJ
VPR
PRT
CN402
MOSI
CLK
ALD
To A BOARD CN102
CN701
MAG1
P TILT
CONV CENT
CONV SIDE
SW PULSEE
LCC AMP IC704
P TILT AMP IC701
Y.B.C AMP IC702
H.A.C AMP IC703
+15V
-30V
SEL Q701, Q703
CN702
MAG1-
MAG1+
P TILT+
P TILT-
Y.B.C+
Y.B.C-
H.A.C+
H.A.C-
LCC
DY
TILT
Y.B.C
H.A.C
(CONVERGENCE)
CN5 (1/2)
HV REG1
HV REF
MUTE
HV PWM
V STAT
HV AMP IC101
Q106
MUTE Q102
H&HW IC102
BUFFER Q103
CURRENT AMP IC105 (1/2)
+15V
+12V REG IC104
+12V
DB (AMP)
CN5 (2/2)
NTC+
NTC-
CN403 (2/2)
CN401
NTC
D (2/2)

5-2. FRAME SCHEMATIC DIAGRAM




L
CONVERGENCE
G
POWER
SUPPLY
D
DEFLECTION
DB
AMP
DA
V.BLK, HV REG
HV POT
F. PACK
FBT
PICTURE
TUBE
DEGAUSS COIL
AC
INLET
FRAME G
CN701
11P
YEL
S-MICRO
CN408
11P
YEL
:S-MICRO
CN606
7P
WHT
:S-MICRO
CN605
12P
RED
:S-MICRO
CN403
12P
RED
:S-MICRO
CN410
6P
WHT
:S-MICRO
CN404
8P
BLK
:BY
CN407
5P
WHT
:BY
CN401
3P
WHT
:S-MICRO
CN603
CN604
CN601
CN602
CN607
B T B
B T B
H.BY
V.BY
NTC

5-3. CIRCUIT BOARDS LOCATION



AC INLET

5-4. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytic.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

  Pitch: 5 mm
  Rating electrical power 1/4 W

- All resistors are in ohms.
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- : panel designation, and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ⊥ : earth-ground.
- ⏚ : earth-chassis.
- All voltages are in V.
- Readings are taken with a 10 MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- * : Can not be measured.
- Circled numbers are waveform references.
- ——— : B + bus.
- - - - : B – bus.

Reference information

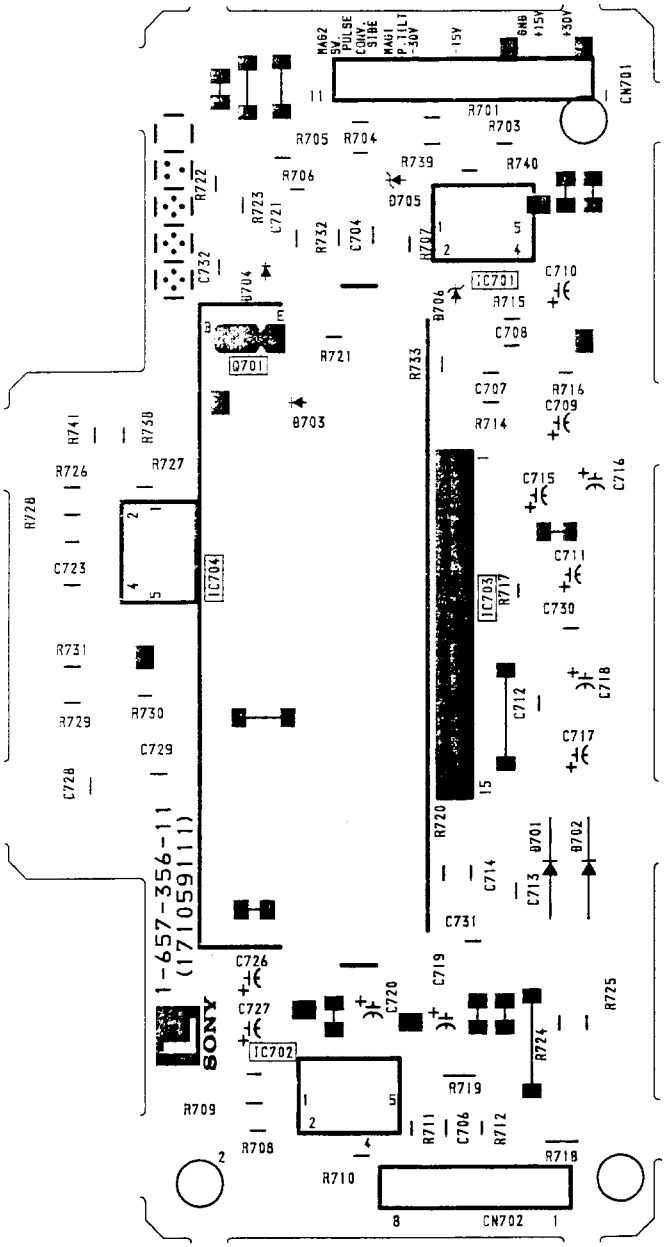
RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

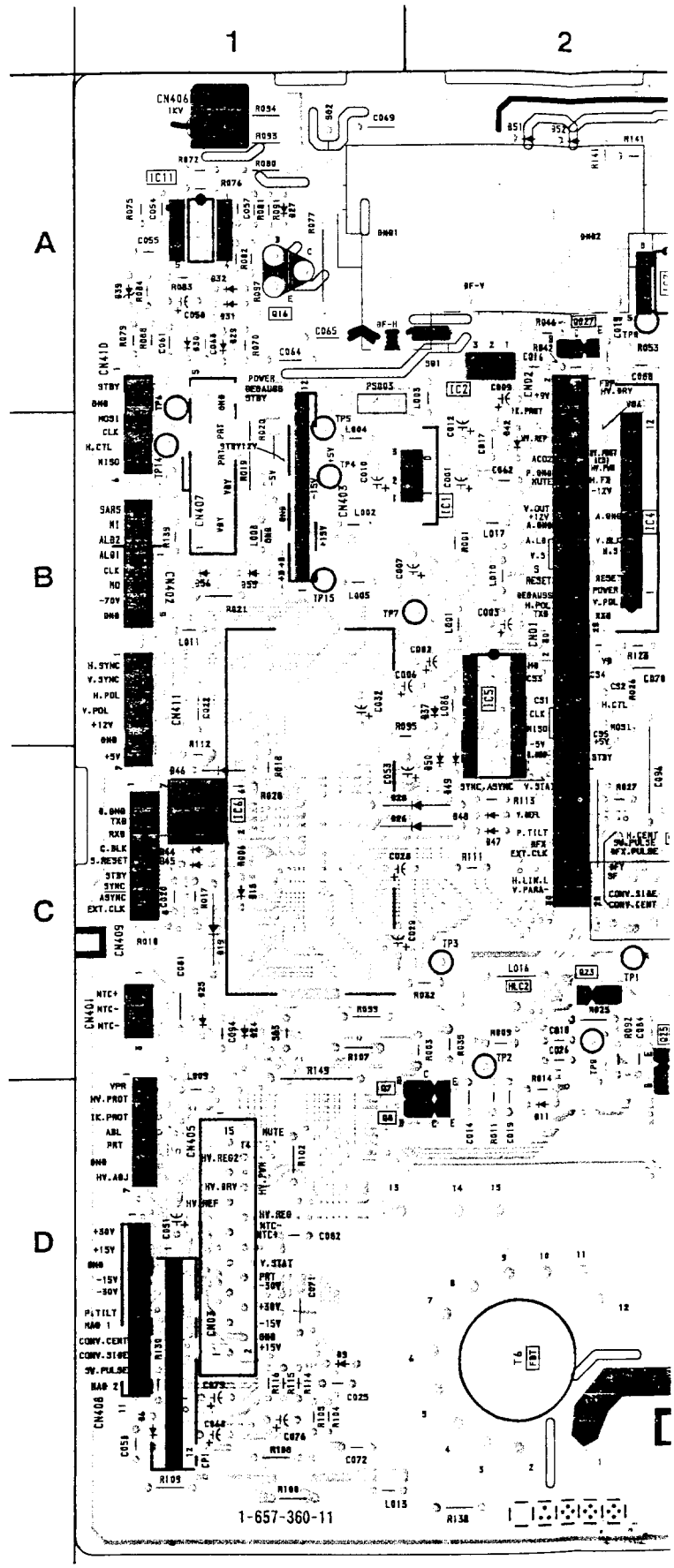
Note: Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

L [CONVERGENCE]

— L Board —

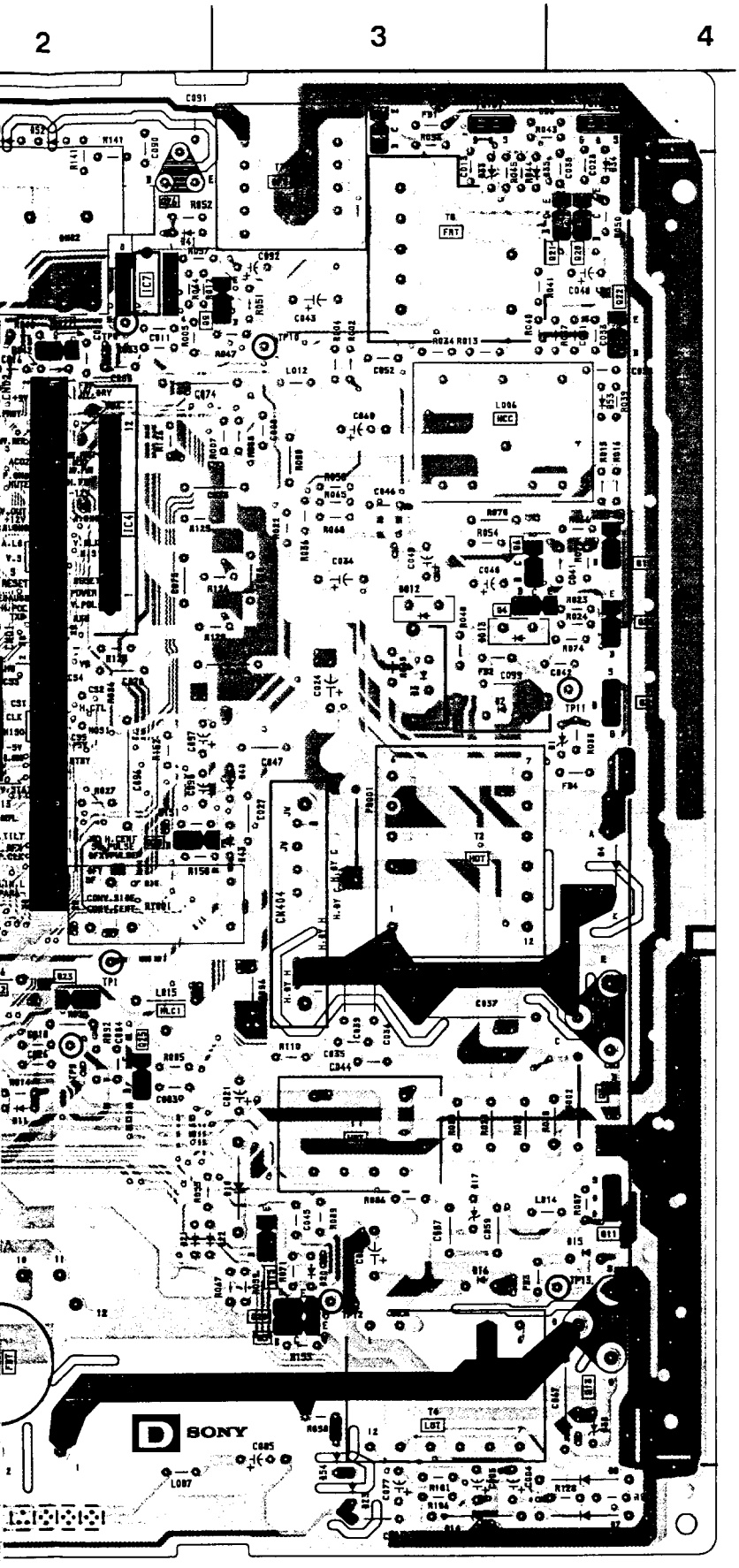


— D Board (Conductor Side) —



: Pattern from the side which enables seeing.
: Pattern of the rear side.

D [DEFLECTION]



● **D BOARD**

IC

	(Conductor Side)	(Component Side)
IC1	B–2	B–3
IC2	A–2	A–3
IC4	B–2	B–2
IC5	B–2	B–3
IC6	C–1	C–4
IC7	A–2	A–2
IC11	A–1	A–4

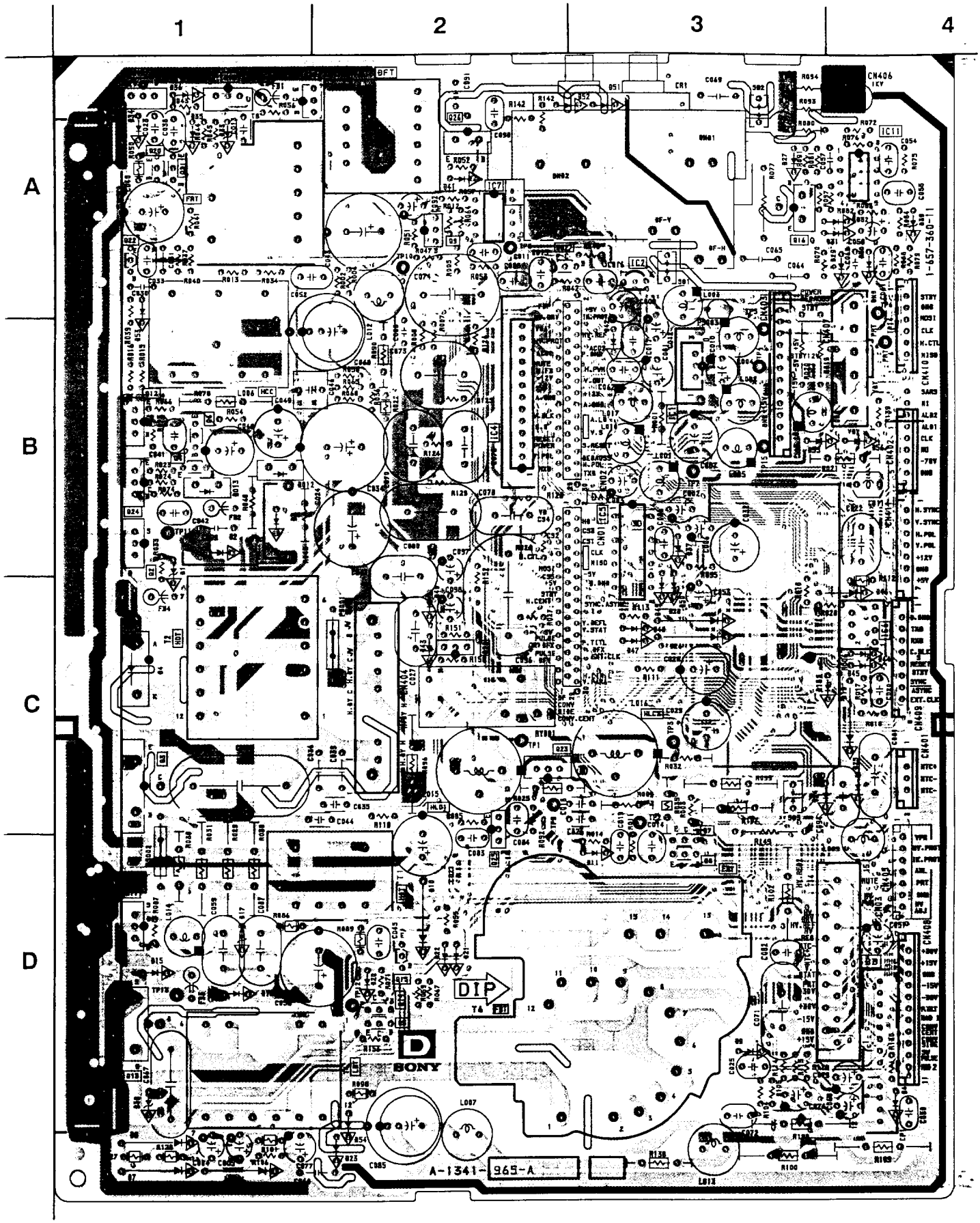
TRANSISTOR

	(Conductor Side)	(Component Side)
Q2	B–4	B–1
Q3	C–4	C–1
Q4	B–3	B–1
Q5	D–3	D–2
Q6	B–3	B–1
Q7	D–1	D–3
Q8	D–1	D–3
Q9	A–2	A–2
Q11	D–4	D–1
Q12	B–4	B–1
Q13	D–4	D–1
Q14	D–3	D–2
Q15	D–3	D–2
Q16	A–1	A–3
Q17	A–3	A–1
Q18	A–3	A–1
Q19	A–4	A–1
Q20	A–4	A–1
Q21	A–3	A–1
Q22	A–4	A–1
Q23	C–2	C–2
Q24	B–4	B–1
Q25	C–2	C–2
Q26	A–2	A–2
Q28	C–2	C–2
Q027	A–27	A–2

DIODE

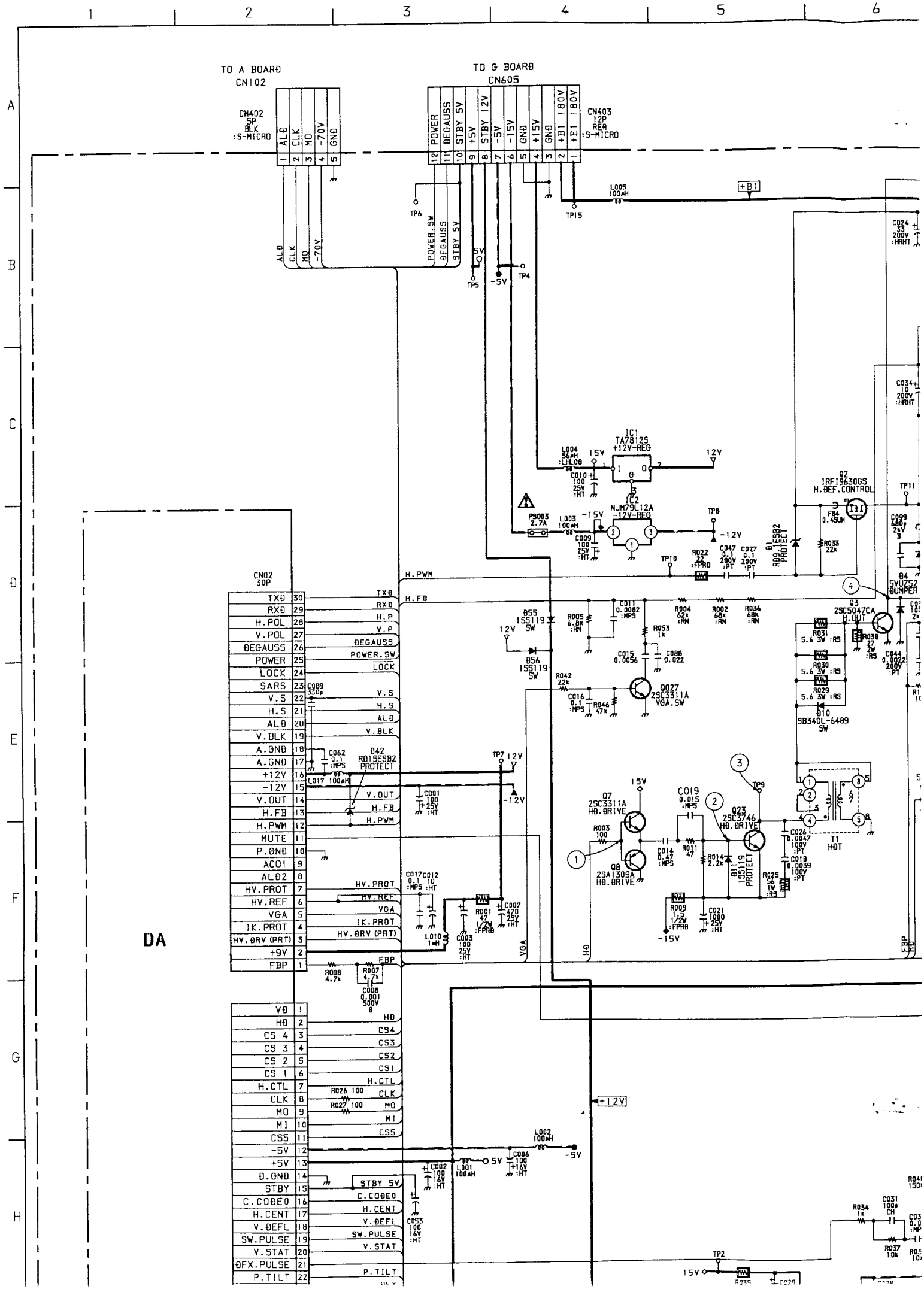
	(Conductor Side)	(Component Side)
D1	B–4	B–1
D2	B–3	B–1
D3	B–3	B–1
D4	C–4	C–1
D6	D–1	D–4
D7	D–4	D–1
D8	D–4	D–1
D9	D–1	D–3
D10	D–3	D–2
D11	D–2	D–3
D14	D–3	D–1
D15	D–4	D–1
D16	D–3	D–1
D17	D–3	D–1
D18	C–1	C–3
D19	C–1	C–4
D20	D–3	D–2
D21	D–2	D–2
D22	D–2	D–2
D23	D–3	D–2
D24	C–1	C–4
D25	C–1	C–4
D26	C–1	C–3
D27	A–1	A–3
D28	C–1	C–3
D29	A–1	A–4
D30	A–1	A–4
D31	A–1	A–4
D32	A–1	A–4
D33	A–3	A–1
D34	A–4	A–1
D35	A–3	A–1
D36	A–3	A–1
D37	B–2	B–3
D38	D–4	D–1
D39	A–1	A–4
D40	C–3	C–2
D41	A–2	A–2
D42	B–2	B–3
D43	C–3	C–2
D44	C–1	C–4
D45	C–1	C–4
D46	C–1	C–4
D47	C–2	C–3
D48	C–2	C–3
D49	C–2	C–3
D50	C–2	C–3
D51	A–2	A–3
D52	A–2	A–3
D53	A–4	B–1
D54	D–3	D–2
D55	B–1	B–3
D56	B–1	B–4
D012	B–3	B–1
D013	B–3	B–1

— D Board (Component Side) —



• : Pattern from the side which enables seeing.
• : Pattern of the rear side.

(1) Schematic Diagrams of D and L Boards



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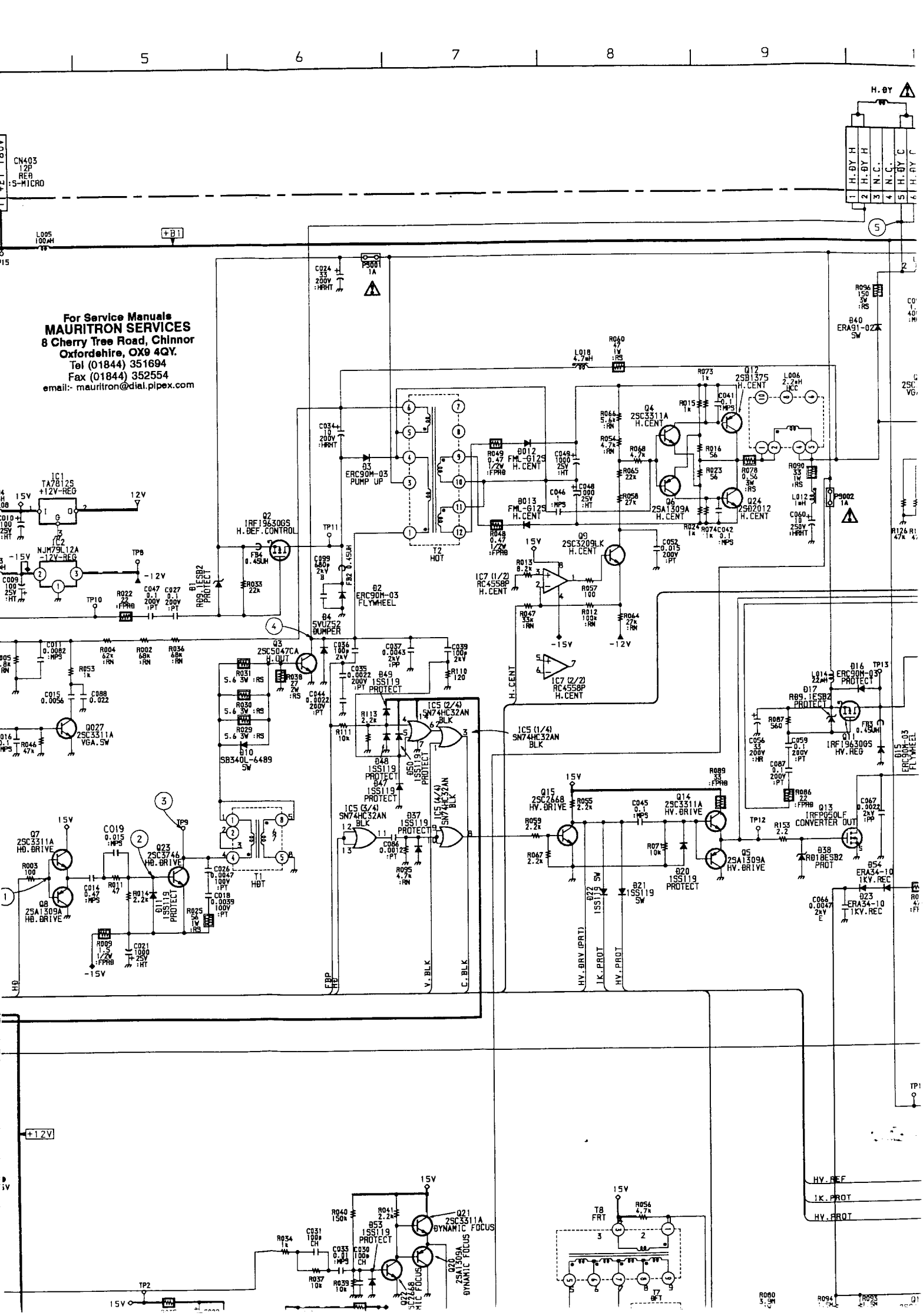
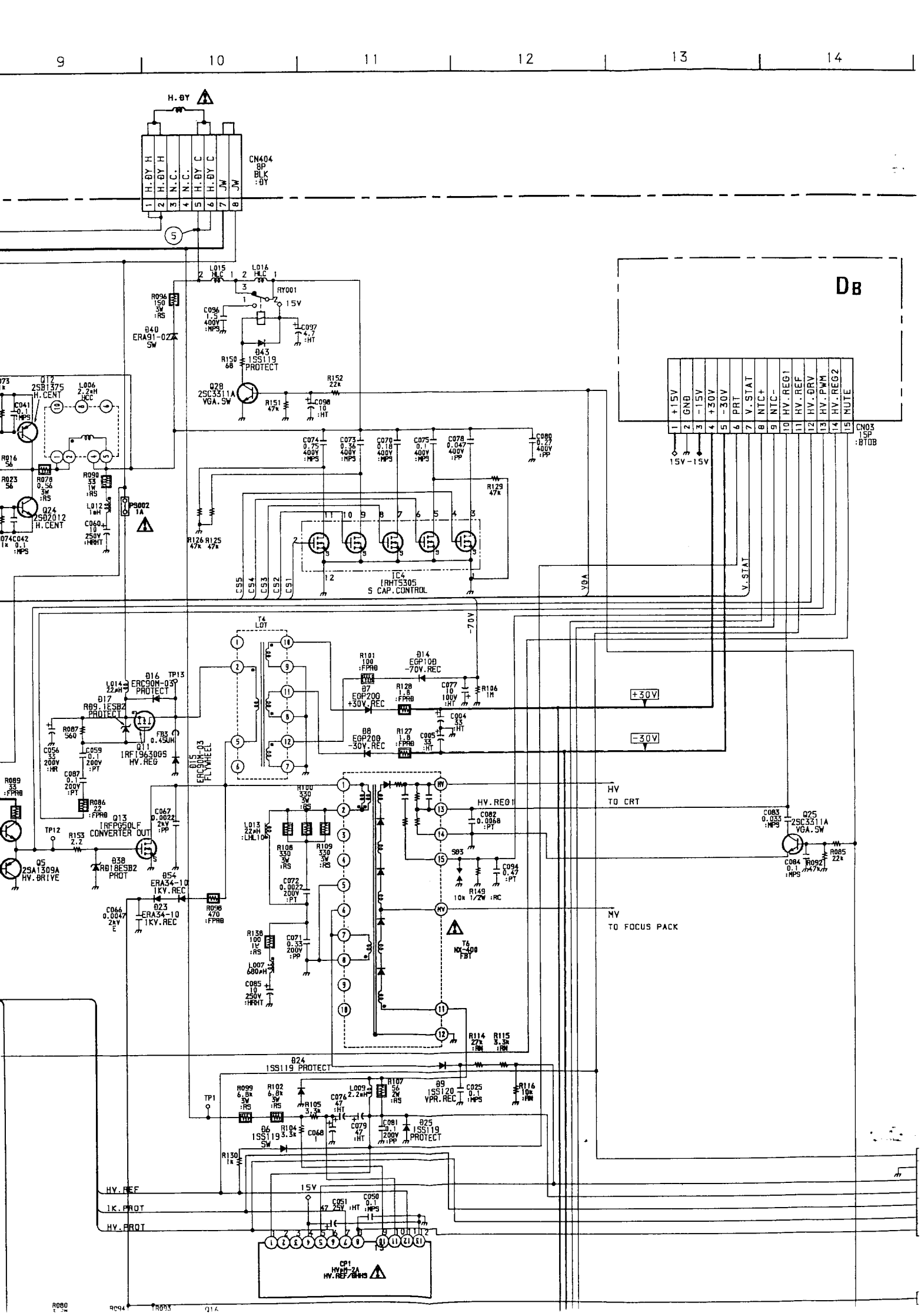
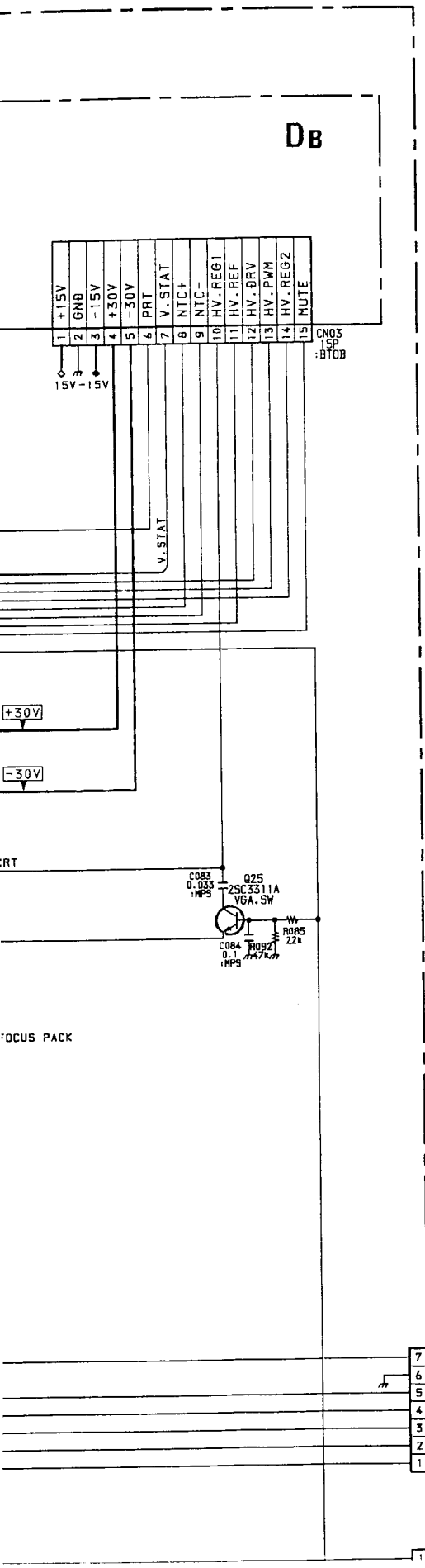
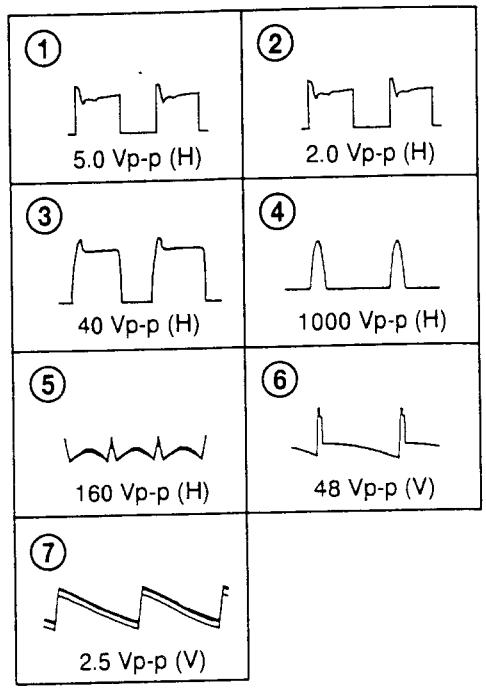
8 Cherry Tree Road, Chinnor
Oxfordshire, OX9 4QY.
Tel (01844) 351694
Fax (01844) 352554
email:- mauritron@dial.pipex.com




9
10
11
12
13
14
H.BY
CN404
8P
BLK
:BY
H.BY H
H.BY H
N.C.
N.C.
H.BY C
H.BY C
JW
JW
DB
CN03
15P
:BTOB
+15V
GND
-15V
+30V
-30V
PRT
V.STAT
NTC+
NTC-
HV.REG1
HV.REF
HV.DRV
HV.PWM
HV.REG2
MUTE
15V-15V
RY001
15V
D40
ERA91-02
5W
R096
150
5W
:RS
C096
1.5
400V
:MPS
C097
4.7
:HT
D43
1SS119
PROTECT
R150
68
Q28
2SC3311A
VGA.5W
R151
47k
R152
22k
C098
10
:HT
Q12
2SB1375
H.CENT
L006
2.2mH
HCC
C041
0.1
:MPS
R016
56
R023
56
R078
0.56
3W
:RS
Q24
2SD2012
H.CENT
R090
33
1W
:RS
L012
1mH
P3002
1A
C060
10
250V
:HRHT
C074
0.75
400V
:MPS
C073
0.36
400V
:MPS
C070
0.18
400V
:MPS
C075
0.1
400V
:MPS
C078
0.047
400V
:PP
C080
0.27
400V
:PP
R129
47k
R126
47k
R125
47k
IC4
LRH1530S
S CAP.CONTROL
C55
C54
C53
C52
C51
VGA
V.STAT
-70V
+30V
-30V
T4
LOT
D16
ERC90M-03
PROTECT
L014
22mH
TP13
D17
R89.1ES82
PROTECT
R087
560
C056
33
200V
:HR
C059
0.1
200V
:PT
C087
0.1
200V
:PT
FR3
0.45UH
Q11
IRFI9630GS
HV.REG
D15
ERC90M-03
FLYWHEEL
R101
100
:FPRB
D14
EGP10B
-70V.REC
R128
1.8
:FPRB
C077
10
100V
:HT
R106
1M
D7
EGP20G
+30V.REC
C004
33
:HT
D8
EGP20B
-30V.REC
R127
1.8
:FPRB
C005
33
:HT
R089
33
:FPRB
C086
22
:FPRB
Q13
IRFPG50LF
CONVERTER OUT
C067
0.0022
2kV
:PP
TP12
R153
2.2
Q5
2SA1309A
HV.DRIVE
D38
RB18ES82
PROT
D54
ERA34-10
1KV.REC
D23
ERA34-10
1KV.REC
R098
470
:FPRB
C066
0.0047
2kV
E
R100
330
3W
:RS
L013
22mH
:LHL10
R108
330
3W
:RS
R109
330
3W
:RS
C072
0.0022
200V
:PT
R138
100
1W
:RS
C071
0.33
200V
:PP
L007
680mH
C085
10
250V
:HRHT
T6
NX-400
FBT
HV
TO CRT
HV.REG1
C082
0.0068
:PT
S03
R149
10k 1/2W
:RC
C094
0.47
:PT
C083
0.033
:MPS
Q25
2SC3311A
VGA.5W
C084
0.1
:MPS
R092
47k
R085
22k
MV
TO FOCUS PACK
R114
27k
:RN
R115
3.3k
:RN
D24
1SS119 PROTECT
TP1
R099
6.8k
3W
:RS
R102
6.8k
3W
:RS
R105
3.3k
C076
47
:HT
L009
2.2mH
R107
56
2W
:RS
D9
1SS120
VPR.REC
C025
0.1
:MPS
R116
10k
:RN
D6
1SS119
5W
R104
3.3k
C068
1
C079
47
:HT
C081
0.1
200V
:PP
D25
1SS119
PROTECT
R130
1k
HV.REF
1K.PROT
HV.PROT
15V
C051
47
25V
:HT
C050
0.1
:MPS
CP1
HV.PP-2A
HV.REF/BRKS
R080
R094
R093
Q14



D BOARD WAVEFORMS

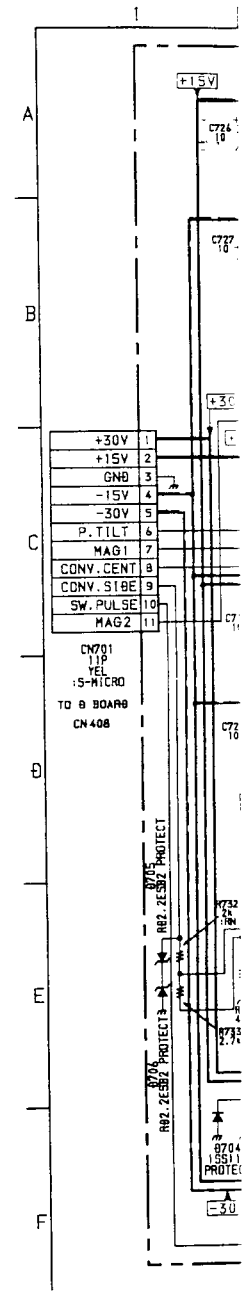


VOLTAGE LIST

● D BOARD

Ref.	Pin No.	Voltage [V]
IC4	2	5.2
	3	0
	4	5.2
	5	0
	6	5.2
	7	0
	8	5.2
	9	0
	10	5.2
	11	0
IC5	1	0.2
	2	0.4
	3	0.5
	4	0
	5	0.2
	6	0.4
	8	0.7
	9	0.8
	10	0.8
	11	2.7
	12	2.6
	13	2.6
	14	5.1
IC6	1	0
	2	14.7
	3	−14.7
	4	−15
	5	0.3
	6	14.3
	7	0
IC7	1	−3.9
	2	0
	3	3
	4	−15.5
	8	15.3
IC11	1	−2.7
	2	0
	3	0
	5	1.9
	6	−0.2
	7	7
Q2	G	182.2
	D	33.9
	S	183.4
Q3	B	−0.9
	C	*
Q4	B	45.9
	C	47.5

Ref.	Pin No.	Voltage [V]
Q8	B	2.6
	E	2.5
Q9	B	−3.9
	C	34.9
	E	−4.4
Q11	G	182.3
	D	41.9
	S	183.3
Q12	B	0
	C	45.9
	E	48.2
Q13	G	9.5
	D	42.2
Q14	B	9.5
	C	15.1
	E	9.5
Q15	B	0.2
	C	10.3
Q16	B	−0.9
	C	111.8
	E	−0.7
Q17	B	0.8
	C	0
Q18	G	−0.2
	D	0
	S	0.2
Q19	G	12.3
	D	0
Q20	B	13.7
	E	13.3
Q21	B	13.3
	E	13.3
Q22	B	0.7
	C	13.7
Q23	B	−15.2
	C	−0.2
	E	−15.2
Q24	B	44.7
	C	45.9
	E	43.9
Q25	B	0.7

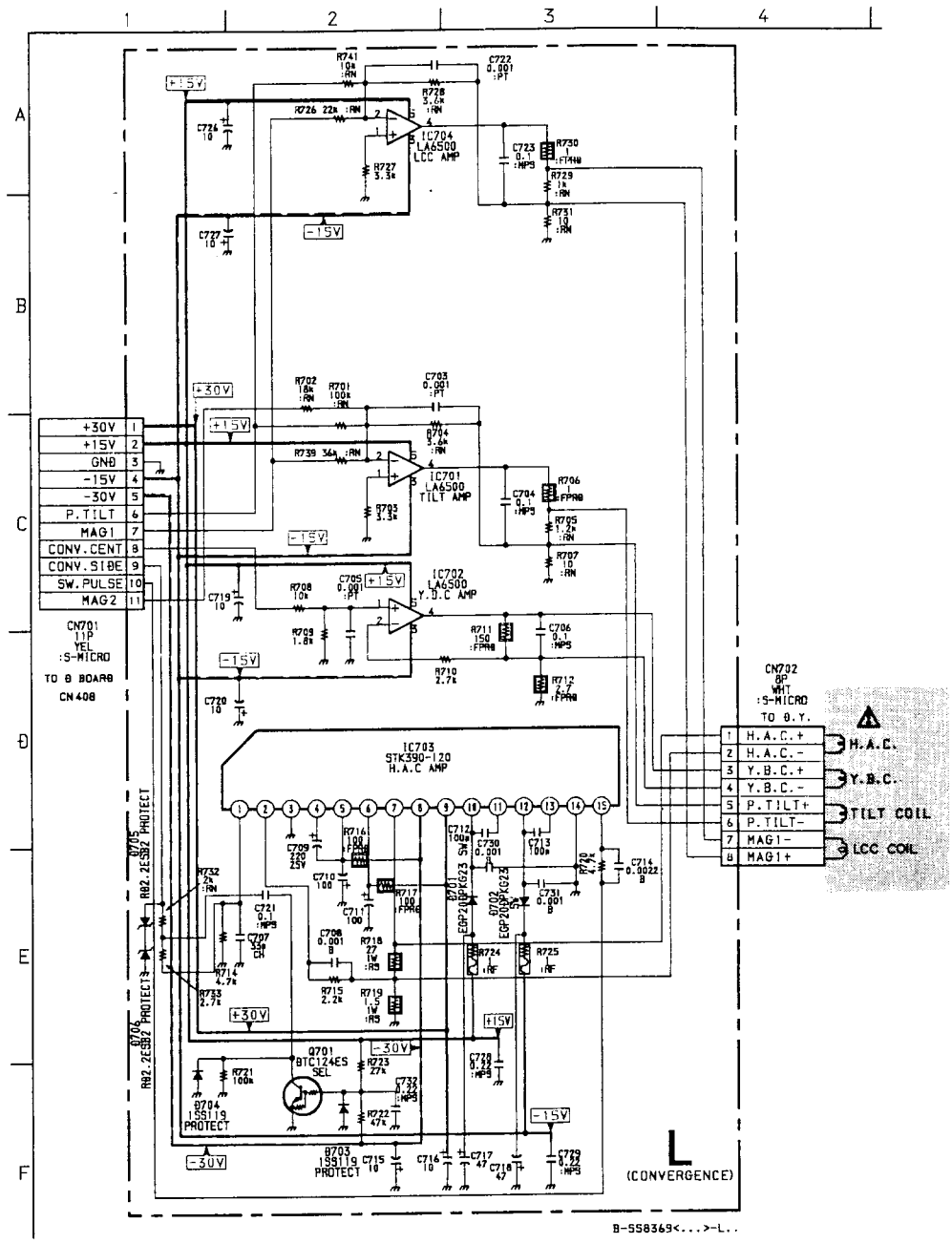


VOLTAGE LIST

● L BOARD

Ref.	Pin No.	Voltag
IC701	1	0
	2	0
	4	0
IC702	1	0.2
	2	0.2
	4	0.3
IC703	1	0
	2	0
	4	−29
	5	−30
	6	30.
	7	0
	10	15.
	11	31.
	12	−2.
	13	−31
	15	−0.

L Board IC703 '



VOLTAGE LIST

● L BOARD

Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]
IC701	1	0	IC704	1	0
	2	0		2	0
	4	0		4	0
IC702	1	0.2	Q701	B	−0.5
	2	0.2		C	0.2
	4	0.3			
IC703	1	0			
	2	0			
	4	−29.1			
	5	−30.4			
	6	30.8			
	7	0			
	10	15.5			
	11	31.1			
	12	−2.4			
	13	−31.0			
	15	−0.4			

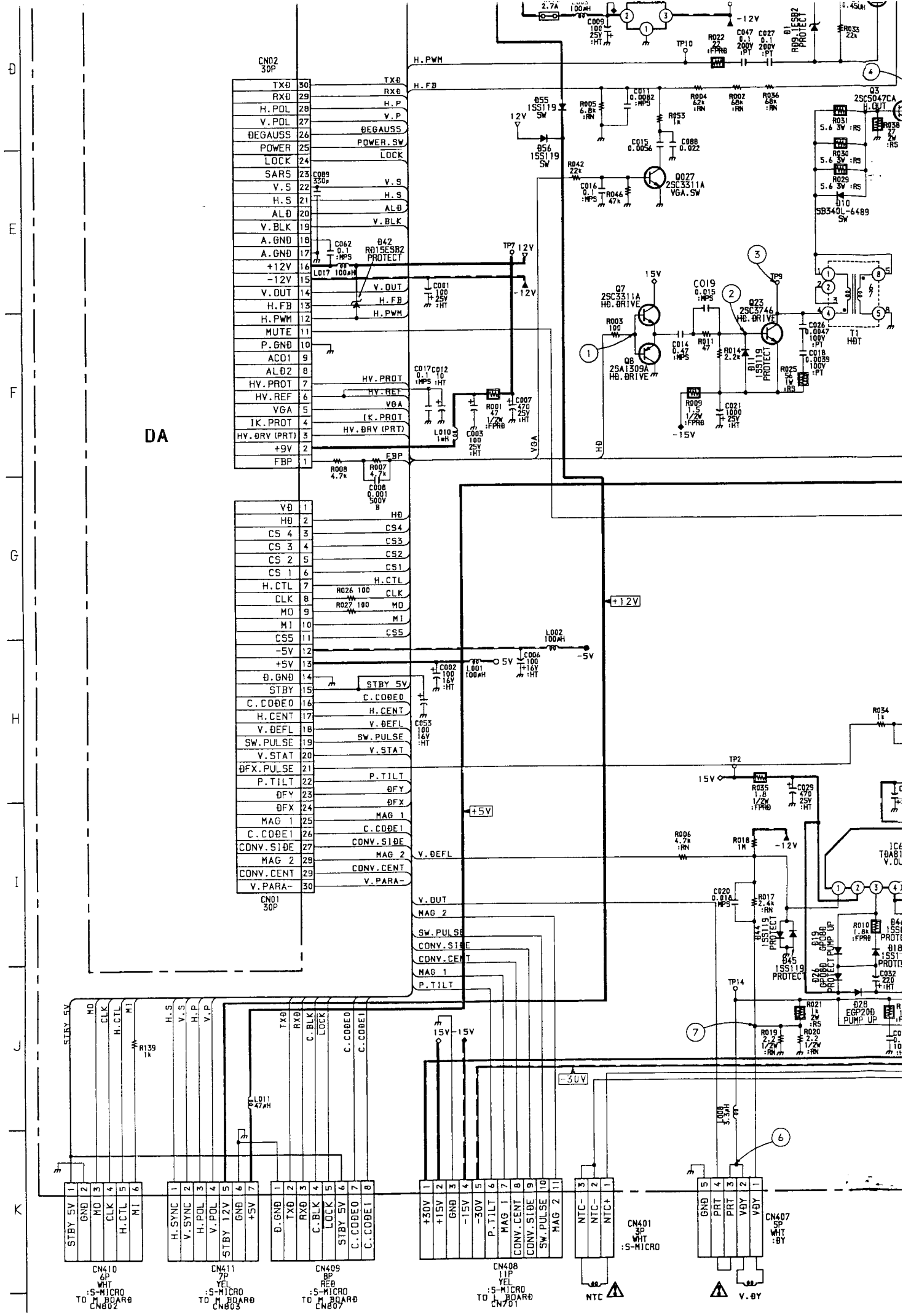
L Board IC703 STK390-120

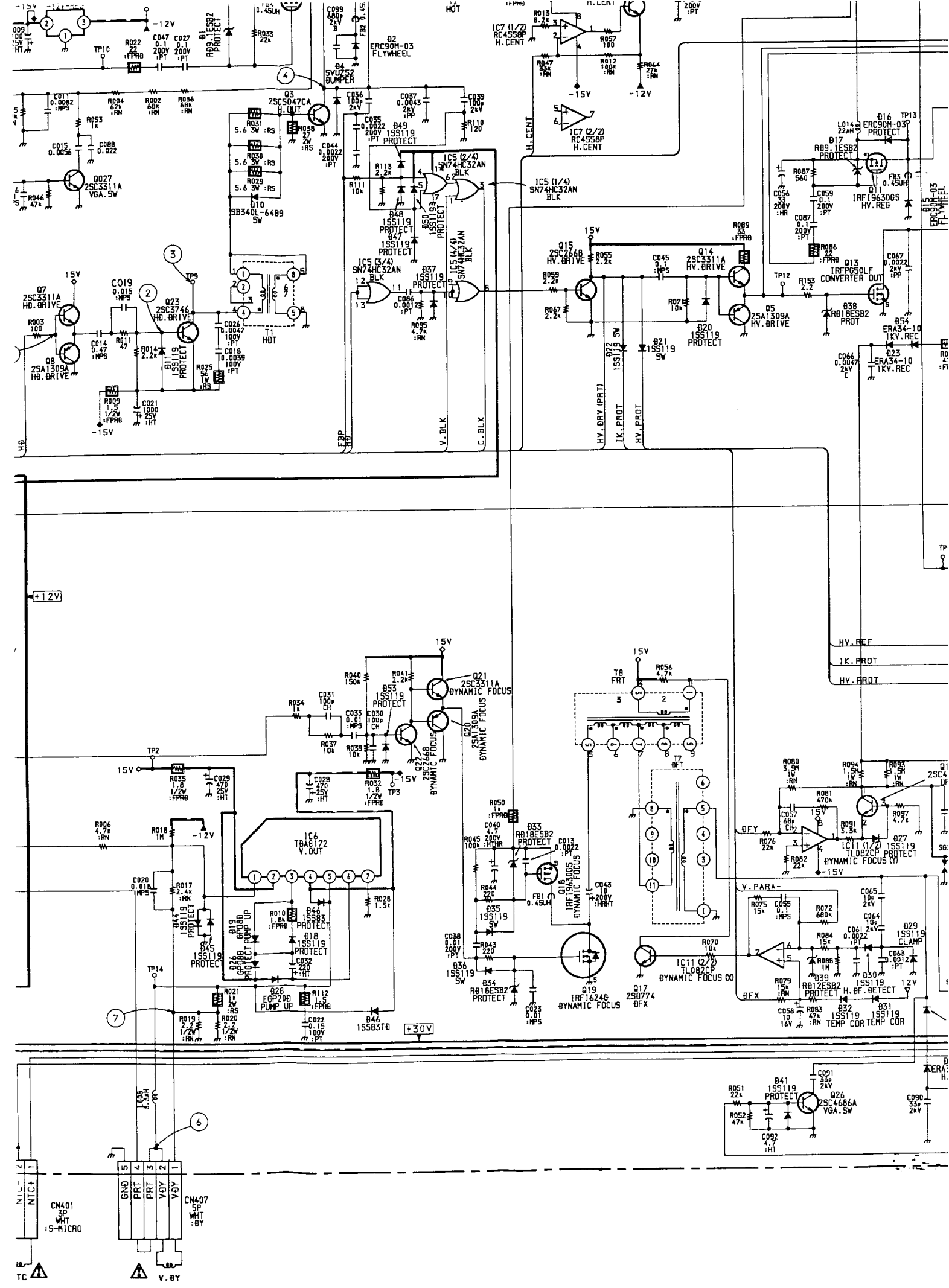
p (H)

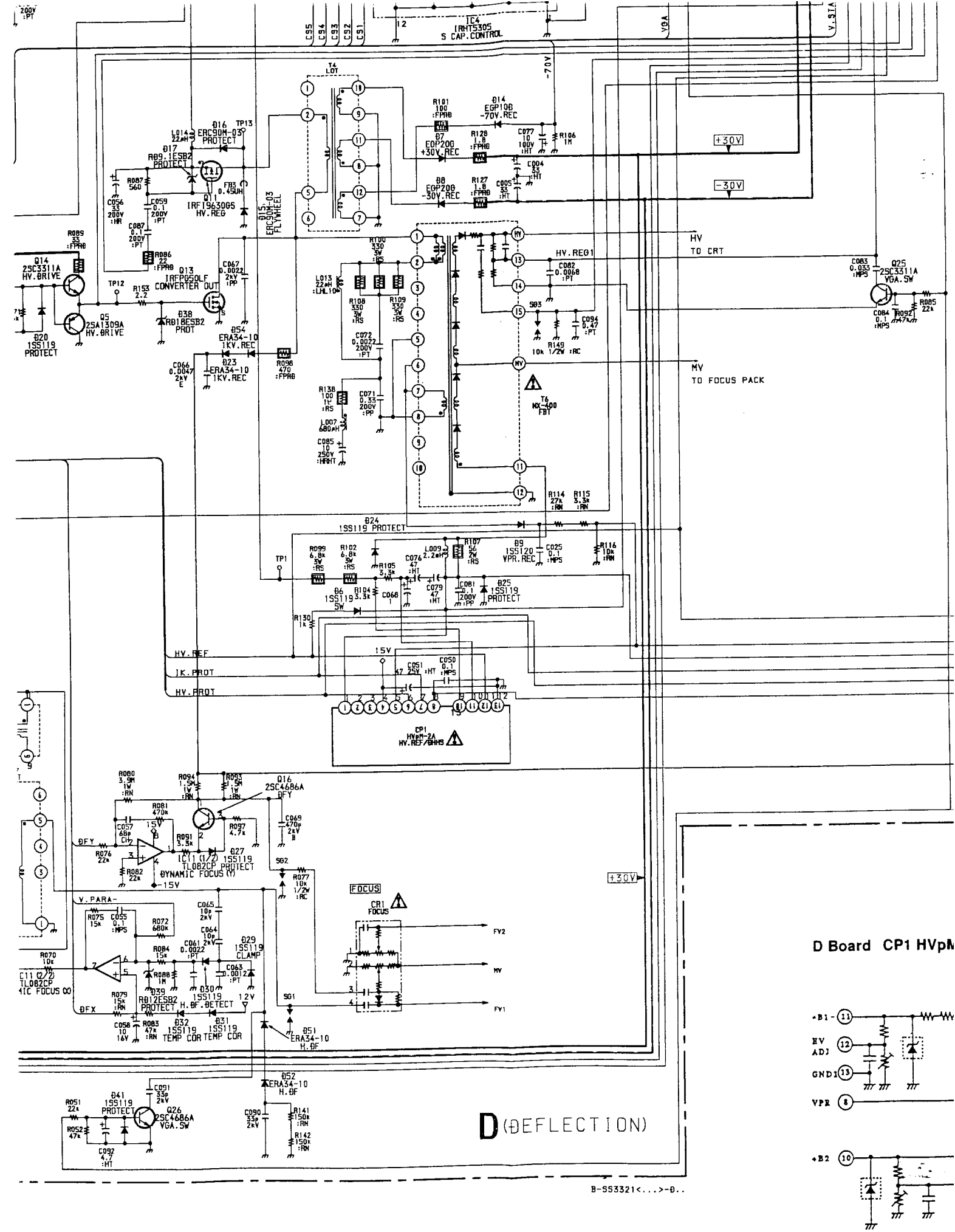
-p (H)

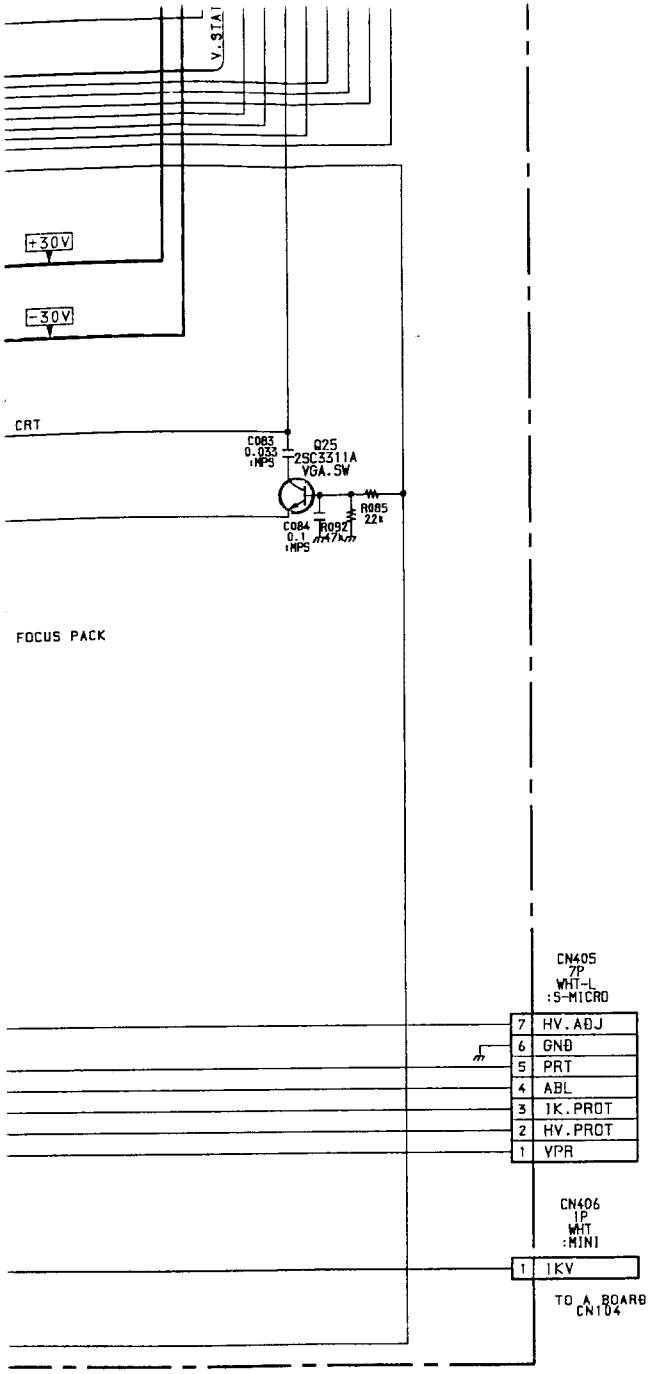
p (V)

Voltage [V]
2.6 2.5
−3.9 34.9 −4.4
182.3 41.9 183.3
0 45.9 48.2
9.5 42.2
9.5 15.1 9.5
0.2 10.3
−0.9 111.8 −0.7
0.8 0
−0.2 0 0.2
12.3 0
13.7 13.3
13.3 13.3
0.7 13.7
−15.2 −0.2 −15.2
44.7 45.9 43.9
0.7


DA
CN02
30P
CN01
30P
CN410
6P
WHT
:S-MICRO
TO M BOARD
CN802
CN411
7P
YEL
:S-MICRO
TO M BOARD
CN803
CN409
8P
RED
:S-MICRO
TO M BOARD
CN807
CN408
11P
YEL
:S-MICRO
TO L BOARD
CN701
CN401
3P
WHT
:S-MICRO
NTC
CN407
5P
WHT
:BY
V.BY
+12V
-12V
+5V
-30V
15V
-15V
STBY 5V
H.PWM
H.FB
V.OUT
MAG 2
SW.PULSE
CONV.SIDE
CONV.CENT
MAG 1
P.TILT
VGA
HD


+12V
-12V
15V
-15V
+30V
HOT
H.CENT
V.BLK
C.BLK
FBP
HBP
HV.DRV (PRT)
IK.PROT
HV.PROT
HV.REF
V.PARA-
ΦFY
ΦFX
TP2
TP3
TP9
TP10
TP12
TP13
TP14
T1 HBT
T7 ΦFT
T8 FRT
IC1 (1/2) RC4558P H.CENT
IC7 (2/2) RC4558P H.CENT
IC5 (1/4) SN74HC32AN BLK
IC5 (2/4) SN74HC32AN BLK
IC5 (3/4) SN74HC32AN BLK
IC5 (4/4) SN74HC32AN BLK
IC6 TBA6172 V.OUT
IC11 (1/2) TL082CP ΦDYNAMIC FOCUS (Y)
IC11 (2/2) TL082CP ΦDYNAMIC FOCUS (X)
Q3 2SC5047CA V.OUT
Q5 2SA1309A HV.DRIVE
Q7 2SC3311A HD.DRIVE
Q8 2SA1309A HD.DRIVE
Q10 SB340L-6489 SW
Q11 IRFI9630G HV.REG
Q13 IRFP050LF CONVERTER OUT
Q14 2SC3311A HV.DRIVE
Q15 2SC2668 HV.DRIVE
Q17 2SB774 ΦFX
Q18 IRF9630G5 DYNAMIC FOCUS
Q19 IRF1624G ΦDYNAMIC FOCUS
Q20 2SA1309A ΦDYNAMIC FOCUS
Q21 2SC3311A ΦDYNAMIC FOCUS
Q22 2SC2668 ΦDYNAMIC FOCUS
Q23 2SC3746 HD.DRIVE
Q026 2SC4686A VGA.SW
Q027 2SC3311A VGA.SW
D1 ERC90M-03 FLYWHEEL
D2 ERC90M-03 FLYWHEEL
D3 5YUZ52 BUMPER
D10 SB340L-6489 SW
D16 ERC90M-03 PROTECT
D17 R89.1ESB2 PROTECT
D18 1SS119 PROTECT
D19 GP08B PROTECT PUMP UP
D20 1SS119 PROTECT
D21 1SS119 SW
D22 1SS119 SW
D23 ERA34-10 1KV.REC
D26 GP08B PROTECT PUMP UP
D27 1SS119 PROTECT
D28 EGP20B PUMP UP
D29 1SS119 CLAMP
D30 1SS119 H.BF.DETECT
D31 1SS119 TEMP COR
D32 1SS119 TEMP COR
D33 RA18ESB2 PROTECT
D34 RA18ESB2 PROTECT
D35 1SS119 SW
D36 1SS119 SW
D38 R018ESB2 PROT
D39 RA12ESB2 PROTECT
D40 1SS119 PROTECT
D41 1SS119 PROTECT
D45 1SS119 PROTECT
D46 1SS119 PROTECT
D47 1SS119 PROTECT
D48 1SS119 PROTECT
D49 1SS119 PROTECT
D50 1SS119 PROTECT
D53 1SS119 PROTECT
CN401 3P WHT :S-MICRO
CN407 5P WHT :BY
NTC+
NTC-
GND
PRT
PRT
VBY
VBY
TC
V.ΦY

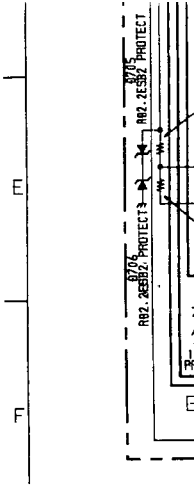

IC4
IRHT5305
S CAP.CONTROL
T4
LOT
Q16
ERC90M-03
PROTECT
Q17
R09.1ESB2
PROTECT
Q11
IRFI9630G5
HV.REG
Q15
ERC90M-03
FLYWHEEL
Q14
2SC3311A
HV.DRIVE
Q5
2SA1309A
HV.DRIVE
Q13
IRFPG50LF
CONVERTER OUT
D20
1SS119
PROTECT
D38
RB18ESB2
PROT
D54
ERA34-10
1KV.REC
D23
ERA34-10
1KV.REC
D7
EGP20G
+30V.REC
D8
EGP20G
-30V.REC
D14
EGP10G
-70V.REC
+30V
-30V
-70V
HV
TO CRT
HV.REG1
MV
TO FOCUS PACK
T6
NX-400
FBT
Q25
2SC3311A
VGA.SW
D24
1SS119 PROTECT
D6
1SS119
5W
D9
1SS120
VPR.REC
D25
1SS119
PROTECT
HV.REF
IK.PROT
HV.PROT
15V
CP1
HVpM-2A
HV.REF/BHMS
Q16
2SC4686A
DFY
IC11 (1/2) 1SS119
TL082CP PROTECT
DYNAMIC FOCUS (V)
-15V
V.PARA-
FOCUS
CR1
FOCUS
FY2
MV
FY1
D29
1SS119
CLAMP
D30
1SS119
D31
1SS119
TEMP COR
D32
1SS119
TEMP COR
D51
ERA34-10
H.DF
D52
ERA34-10
H.DF
D41
1SS119
PROTECT
Q26
2SC4686A
VGA.SW
D (DEFLECTION)
B-SS3321<...>-0..
D Board CP1 HVpM
+B1
EV
ADJ
GND1
VPR
+B2



VOLTAGE LIST

● D BOARD

Ref.	Pin No.	Voltage [V]
IC4	2	5.2
	3	0
	4	5.2
	5	0
	6	5.2
	7	0
	8	5.2
	9	0
	10	5.2
	11	0
IC5	1	0.2
	2	0.4
	3	0.5
	4	0
	5	0.2
	6	0.4
	8	0.7
	9	0.8
	10	0.8
	11	2.7
	12	2.6
	13	2.6
	14	5.1
IC6	1	0
	2	14.7
	3	−14.7
	4	−15
	5	0.3
	6	14.3
	7	0
IC7	1	−3.9
	2	0
	3	3
	4	−15.5
	8	15.3
IC11	1	−2.7
	2	0
	3	0
	5	1.9
	6	−0.2
	7	7
Q2	G	182.2
	D	33.9
	S	183.4
Q3	B	−0.9
	C	*
Q4	B	45.9
	C	47.5
	E	45.8
Q5	B	9.5
	E	9.5
Q6	B	45.9
	C	44.7
	E	45.9
Q7	B	2.6
	E2.5	
Q8	B	2.6
	E	2.5
Q9	B	−3.9
	C	34.9
	E	−4.4
Q11	G	182.3
	D	41.9
	S	183.3
Q12	B	0
	C	45.9
	E	48.2
Q13	G	9.5
	D	42.2
Q14	B	9.5
	C	15.1
	E	9.5
Q15	B	0.2
	C	10.3
Q16	B	−0.9
	C	111.8
	E	−0.7
Q17	B	0.8
	C	0
Q18	G	−0.2
	D	0
	S	0.2
Q19	G	12.3
	D	0
Q20	B	13.7
	E	13.3
Q21	B	13.3
	E	13.3
Q22	B	0.7
	C	13.7
Q23	B	−15.2
	C	−0.2
	E	−15.2
Q24	B	44.7
	C	45.9
	E	43.9
Q25	B	0.7
	C	0
Q26	B	0.7
	C	0
	E	0
Q27	B	0.7
	C	0
Q28	B	0.8
	C	0.5

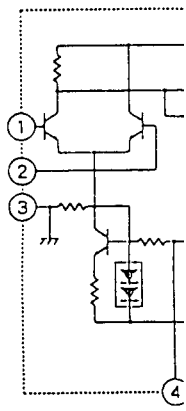


VOLTAGE LIS

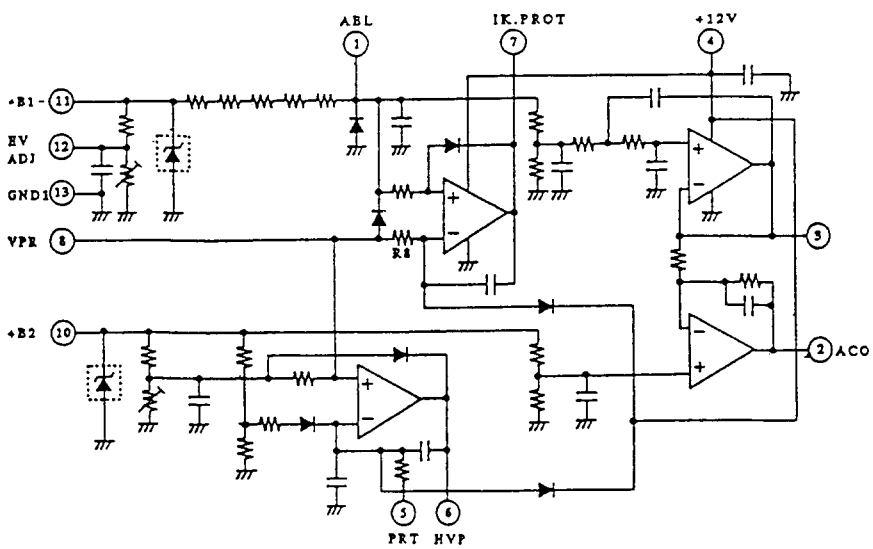
● L BOARD

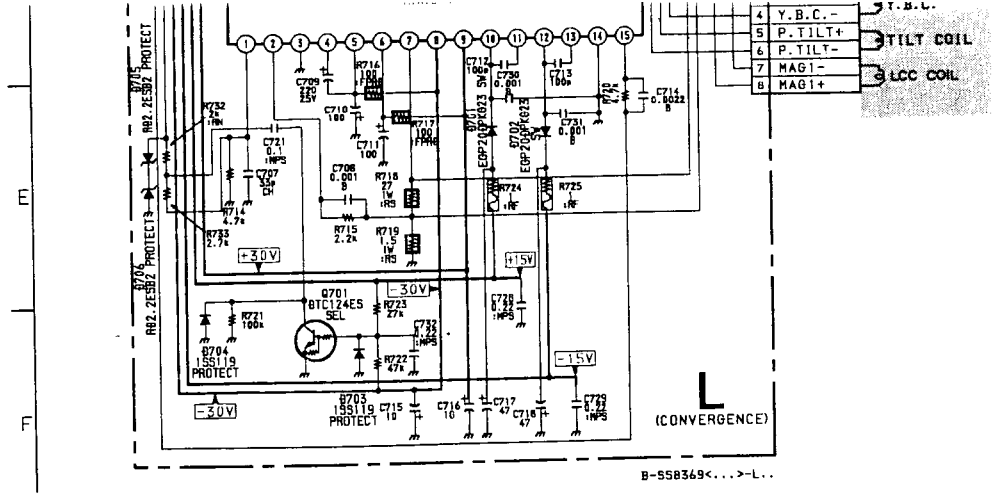
Ref.	Pin No.	Vol
IC701	1	
	2	
	4	
IC702	1	
	2	
	4	
IC703	1	
	2	
	4	
	5	
	6	
	7	
	10	
	11	
	12	
	13	
	15	

L Board IC70



D Board CP1 HVpM2





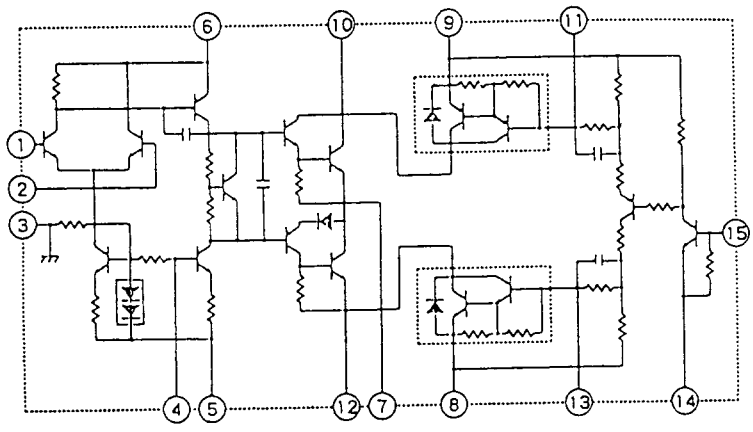
oltage [V]
2.6
2.5
–3.9
34.9
–4.4
182.3
41.9
183.3
0
45.9
48.2
9.5
42.2
9.5
15.1
9.5
0.2
10.3
–0.9
111.8
–0.7
0.8
0
–0.2
0
0.2
12.3
0
13.7
13.3
13.3
13.3
0.7
13.7
–15.2
–0.2
–15.2
44.7
45.9
43.9
0.7
0
0.7
0
0
0.7
0
0.8
0.5

VOLTAGE LIST

● L BOARD

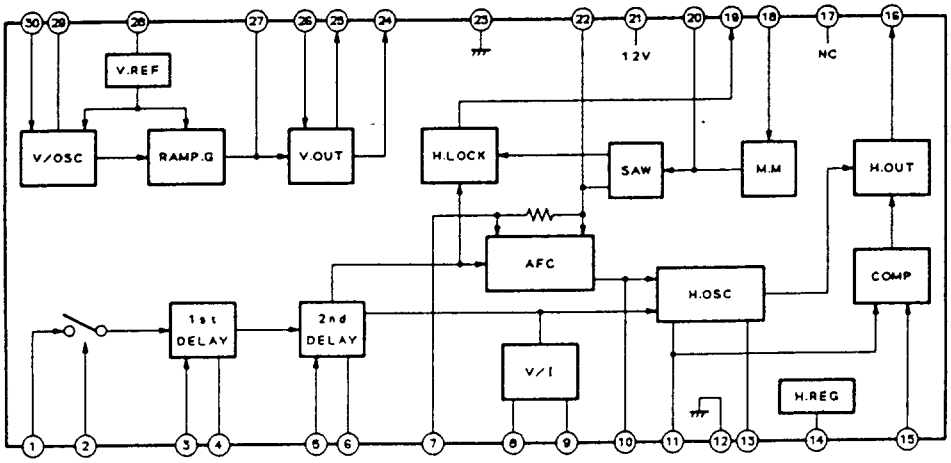
Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]
IC701	1	0	IC704	1	0
	2	0		2	0
	4	0		4	0
IC702	1	0.2	Q701	B	–0.5
	2	0.2		C	0.2
	4	0.3			
IC703	1	0			
	2	0			
	4	–29.1			
	5	–30.4			
	6	30.8			
	7	0			
	10	15.5			
	11	31.1			
	12	–2.4			
	13	–31.0			
	15	–0.4			

L Board IC703 STK390-120

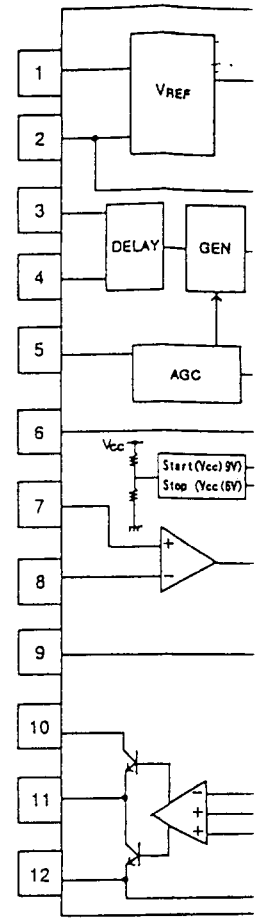


(2) Schematic Diagram of DA Board

DA Board IC115 CXA1543M



DA Board IC116 CXA



VOLTAGE LIST

● DA BOARD

Ref.	Pin No.	Voltage [V]
IC101	2	2.5
	3	2.2
	5	0.2
	7	1.2
	8	0
	9	0
	10	0
	11	0.8
	12	–0.7
	13	0
	14	–0.5
	15	1
	16	0.9
	19	0
	20	0
	21	1.9
	23	0.8
	24	1.1
	25	2.7
	26	1.1
	27	2.6
IC102	2	0.8
	3	–0.7
	4	3.2
	5	–0.2
	8	0
	9	1.4
	10	–0.2
	14	0
	15	5.2
	16	5.2
	19	–5
	20	–0.2
	21	0
	22	1.1
	23	0.3
	24	0
	25	–0.5
	26	0.8
	27	0
	28	0
IC303	1	–1.2
	2	0
	3	0
	4	2.8
	5	2.8
	8	–0.7
	9	2.8
	10	0
	11	0
	12	0
	13	0
	14	0
	15	–0.5
	16	0
	17	5.1
	20	5.2
	22	2.8
	23	2.8
	24	2.8

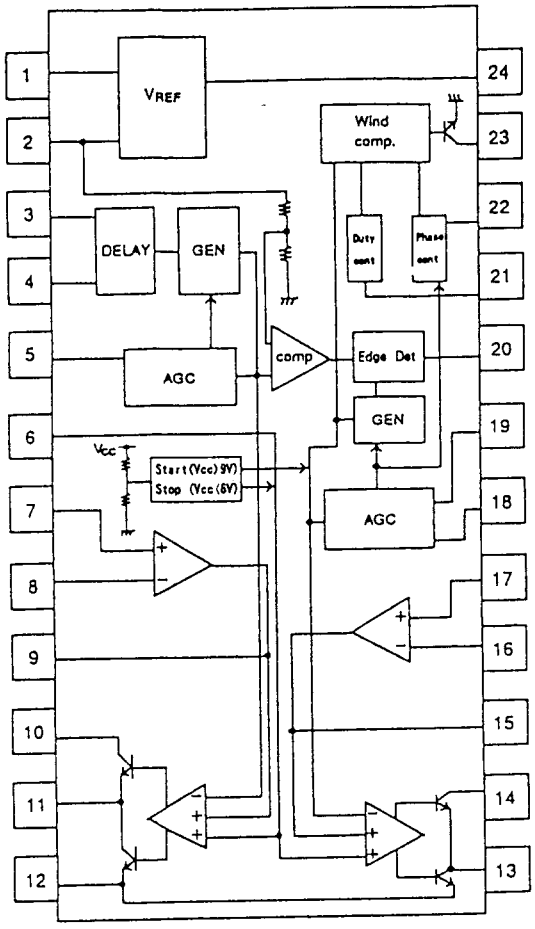
Ref.	Pin No.	Voltage [V]
IC104	2	1.6
	3	0
	4	2.8
	8	0
	9	0.7
	14	0
	15	5.2
	16	5.2
	20	0
	21	0
	26	0.8
	27	0.6
	28	0
IC105	6	0
	7	1.4
	8	0
	9	0
	10	0
	11	0.5
	12	0.6
	13	0
	14	0
	17	0
	18	0
	19	–0.7
	20	–0.7
	21	0.4
	22	–0.1
	23	0
	24	0
	25	0
	26	0
	27	0
	28	0
	29	0
	30	3.2
IC106	1	–1.5
	2	–0.5
	3	–0.5
	5	0
	6	0
	7	1.6
IC107	1	–0.7
	2	0
	3	0
	5	1.2
	6	1.2
	7	1.6
IC108	1	5.3
	2	3.8
	3	5.2
	5	5.2
	6	5.2
	7	5.2
IC109	1	5.2
	2	3.8
	3	5.2
	5	5.2
	6	5.2

Ref.	Pin No.	Voltage [V]
IC110	2	5.2
	3	5.1
	5	5.2
	6	5.1
	8	0
	9	0
	11	5.2
	12	5.2
IC111	1	2.9
	2	2.4
	3	5.3
	4	5.3
	5	5.3
	7	5.3
	9	0.8
	10	0
	11	5.2
	12	2.5
	13	0.2
	14	0.2
	16	5.2
	17	5.2
	18	5.2
	19	0.2
	20	5.2
	21	3.8
	22	5.2
	23	0
	25	5.2
	26	5.2
	27	5.2
	28	5.2
	29	5.2
	30	5.2
	32	5.2
	33	5.2
	34	0
	35	4.7
	36	4.6
	37	4.2
	38	4.2
	39	5
	42	5.2
	43	5.2
	44	5.2
	45	0
	46	0
	47	0
	55	5.2
	57	5.2
	58	0
	59	0
	60	0.2
	61	5.2
	62	5.2
	63	3.0
	64	5.2
IC112	1	0
	2	1.1
	3	1.1
	5	0

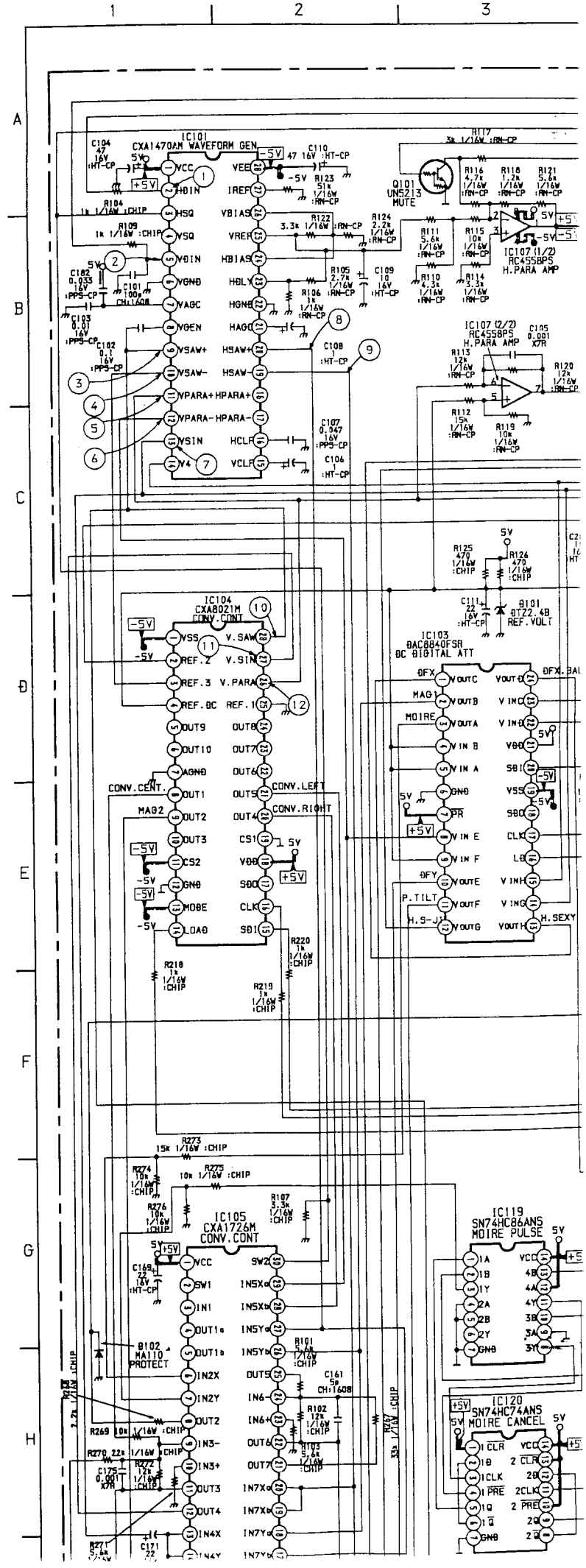
Ref.	Pin No.	Voltage [V]
IC113	1	05
	3	0
	7	*
	8	5.2
IC114	2	0
	3	5.3
	5	0.2
	6	0
	7	5
	9	2.1
	10	5.1
	11	5.1
	14	0
	15	4
IC115	1	4.9
	2	0
	3	0.9
	4	7
	5	0.9
	6	8.5
	7	4.9
	8	0
	9	1.2
	10	6.8
	11	6.1
	13	8.7
	15	8.9
	16	2.5
	18	0.8
	19	5
	20	7.6
	22	5.2
	24	0
	25	0.2
	16	0.2
	27	1.9
	28	*
	29	6.3
	30	6.2
IC116	2	5.2
	3	2.5
	4	1.0
	5	0
	6	1.7
	7	*
	8	1.6
	9	3.7
	10	12.2
	11	9
	12	0
	14	0.2
	15	0.2
	16	2.2
	17	2.2
	18	4.3
	19	4
	20	0.5
	21	4.2
	22	4.2
	23	0

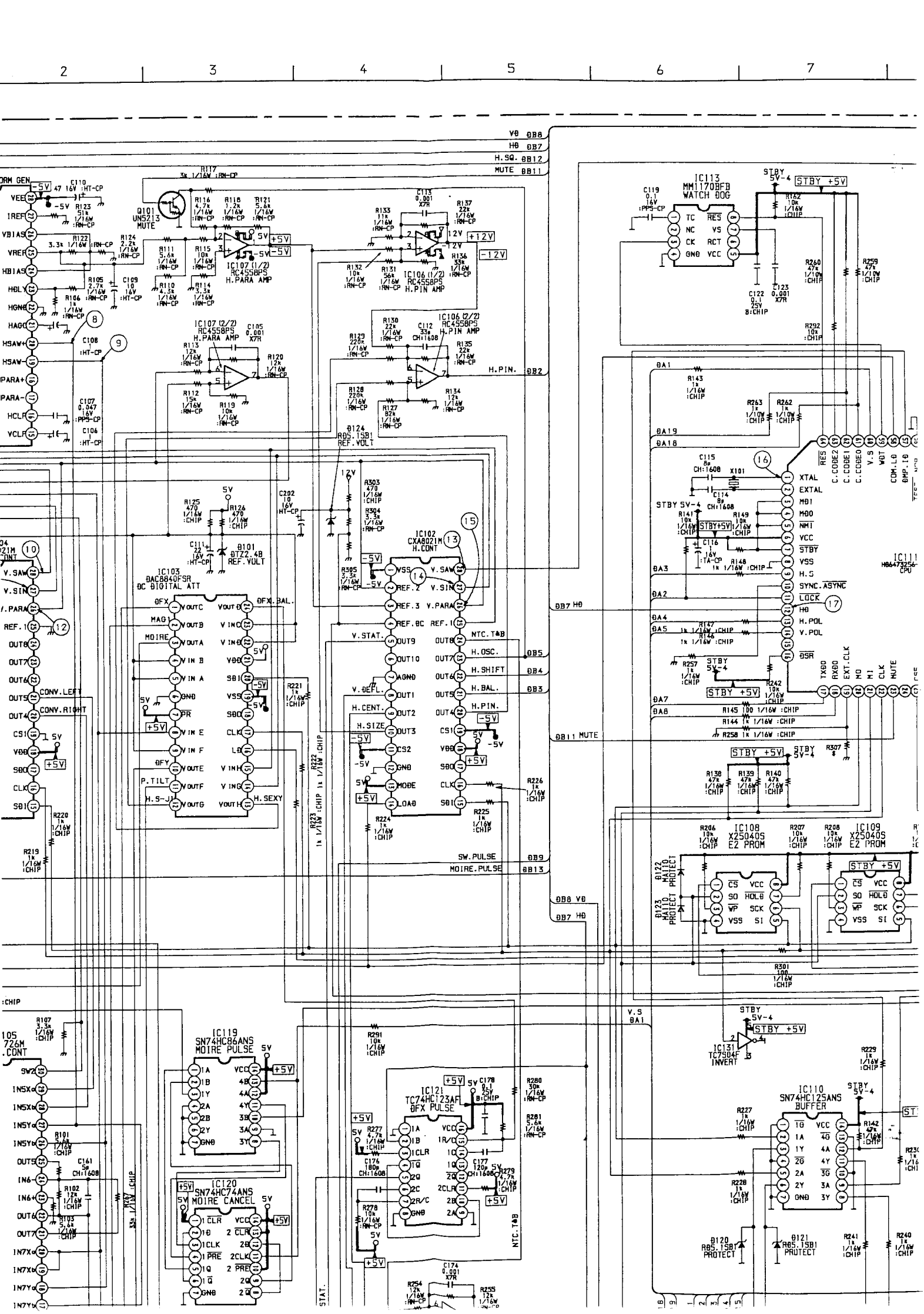
Ref.	Pin No.	Voltage [V]
IC117	1	0.2
	2	0.2
	3	11.6
	4	11.6
	5	0.8
	6	0.8
	8	2.1
	9	2.1
	10	11.7
	11	11.2
	12	10.4
	13	0
IC119	1	*
	2	2.6
	3	*
	8	0.4
	10	–0.1
	11	5.1
	13	0.3
IC120	2	*
	3	0.4
	4	5.1
	5	2.7
	6	*
	8	2.6
	9	2.6
	11	0.2
	12	2.6
IC121	2	2.5
	3	5.1
	4	*
	5	*
	6	0
	7	4.8
	10	*
	11	5.1
	14	0
	15	4.7
IC122	1	–0.6
	2	–0.2
	3	0
	5	0.3
	6	0.3
	7	0.5
IC130	1	0
	2	0.3
	4	0
IC131	1	5.2
	2	5.2
Q101	B	0
	C	0.2
Q103	B	0.2
	C	5
Q104	B	0
	C	5.2

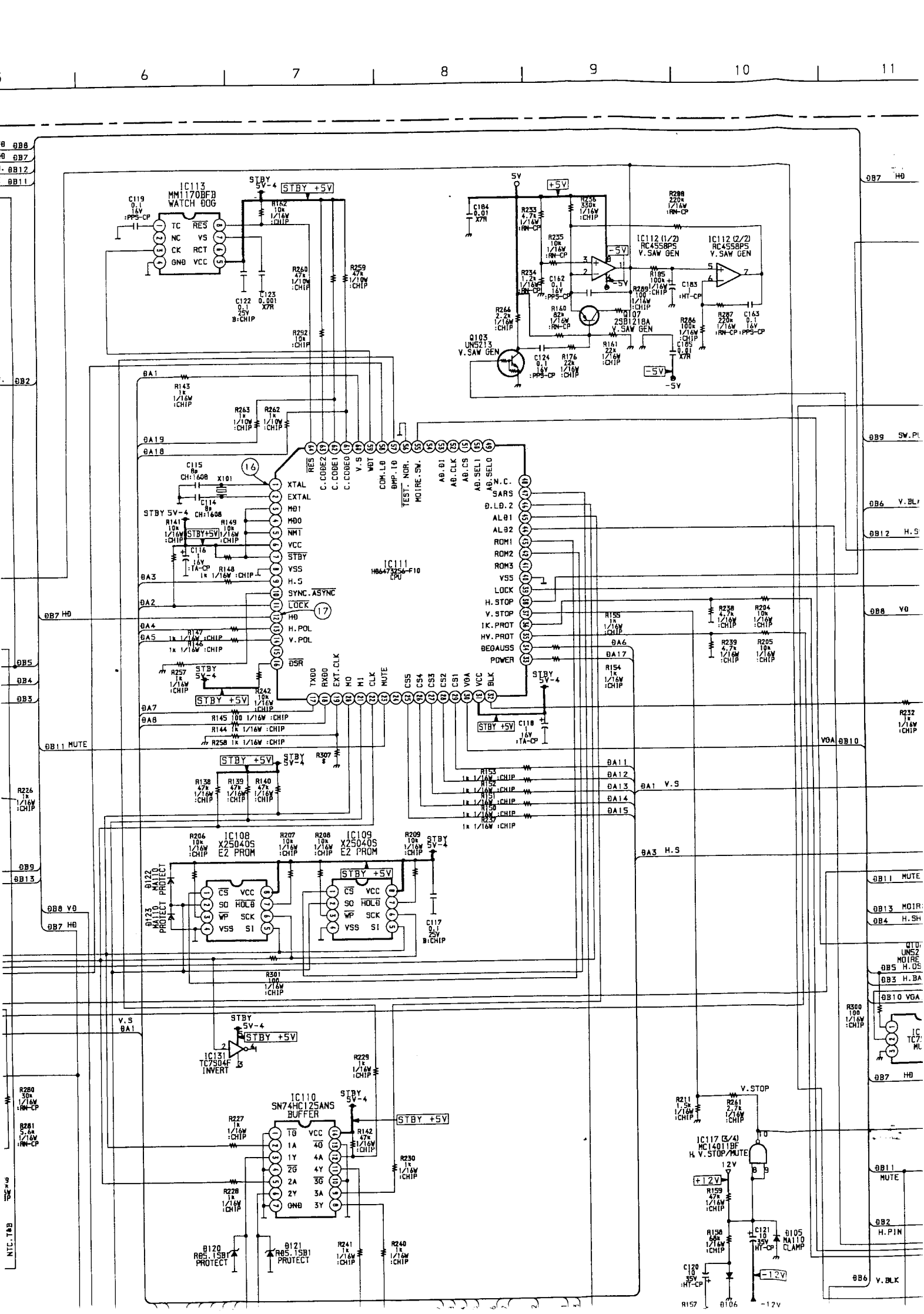
DA Board IC116 CXA1544M

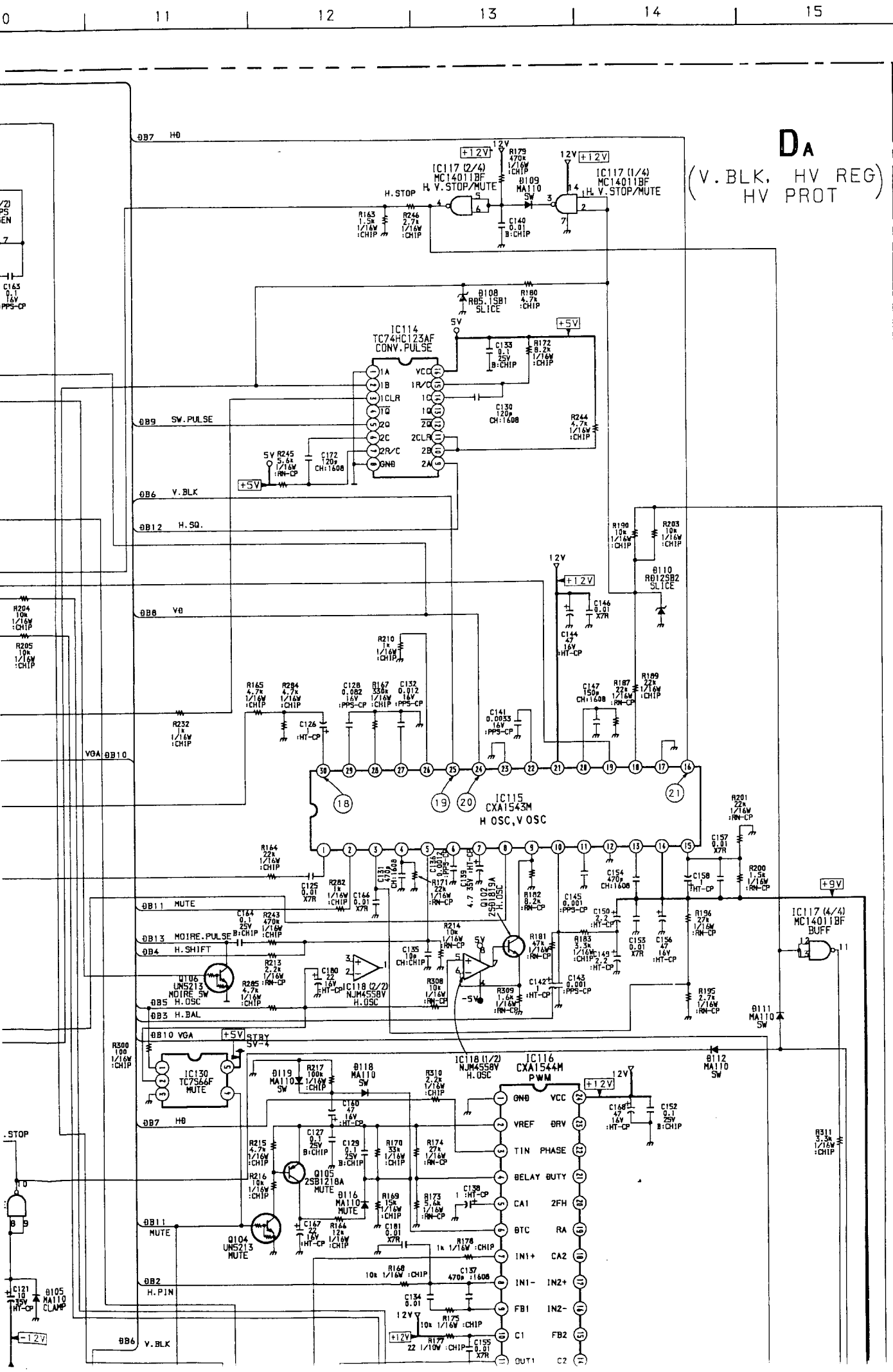


	Voltage [V]
	0.2
	0.2
	11.6
	11.6
	0.8
	0.8
	2.1
	2.1
	11.7
	11.2
	10.4
	0
	*
	2.6
	*
	0.4
	−0.1
	5.1
	0.3
	*
	0.4
	5.1
	2.7
	*
	2.6
	2.6
	0.2
	2.6
	2.5
	5.1
	*
	*
	0
	4.8
	*
	5.1
	0
	4.7
	−0.6
	−0.2
	0
	0.3
	0.3
	0.5
	0
	0.3
	0
	5.2
	5.2
	0
	0.2
	0.2
	5
	0
	5.2




2
3
4
5
6
7
IC113
MM1170BFB
WATCH DOG
IC107 (1/2)
RC4558BPS
H.PARA AMP
IC107 (2/2)
RC4558BPS
H.PARA AMP
IC106 (1/2)
RC4558BPS
H.PIN AMP
IC106 (2/2)
RC4558BPS
H.PIN AMP
IC102
CXA8021M
H.CONT
IC103
BAC8840FSR
8C DIGITAL ATT
IC119
SN74HC86ANS
MOIRE PULSE
IC120
SN74HC74ANS
MOIRE CANCEL
IC121
TC74HC123AF
8FX PULSE
IC108
X2504QS
E2 PROM
IC109
X2504QS
E2 PROM
IC110
SN74HC125ANS
BUFFER
IC131
TC7S04F
INVERT
IC111
M66473256-
CPU
Q101
UN5213
MUTE
Q120
R85.1SB1
PROTECT
Q121
R85.1SB1
PROTECT
Q122
MAIN
PROTECT
Q123
MAIN
PROTECT
D101
DTZ2.4B
REF.VOLT
R85.1SB1
REF.VOLT
H.PIN.
V.SAW
V.SIN
V.PARA
H.SIZE
H.CENT.
V.DEFL.
P.TILT
H.S-J
CONV.LEFT
CONV.RIGHT
H.SEXY
H.BAL.
H.SHIFT
H.OSC.
NTC.T&B
SW.PULSE
MOIRE.PULSE
V.STAT.
STBY +5V
STBY 5V-4
+5V
-5V
+12V
-12V
5V
12V
V.S
H.S
H.POL
V.POL
SYNC.ASYNC
EXT.CLK
MUTE
XTAL
EXTAL
NMI
VCC
VSS
RES
WDT
INVERT
BUFFER
PROTECT


IC113
MM1170BFB
WATCH DOG
IC111
H86473256-F10
CPU
IC108
X25040S
E2 PROM
IC109
X25040S
E2 PROM
IC110
SN74HC125ANS
BUFFER
IC131
TC7504F
INVERT
IC112 (1/2)
RC4558PS
V.SAW GEN
IC112 (2/2)
RC4558PS
V.SAW GEN
Q103
UN5213
V.SAW GEN
Q107
2SB1218A
V.SAW GEN
IC117 (3/4)
MC14011BF
H.V.STOP/MUTE
STBY +5V
STBY 5V-4
+5V
-5V
+12V
-12V
V.S
H.S
V.STOP
MUTE
V.BLK
H.PIN
MOIRE
VGA
H0
V0


DA
(V.BLK, HV REG
HV PROT)
IC117 (2/4)
MC14011BF
H. V.STOP/MUTE
IC117 (1/4)
MC14011BF
H. V.STOP/MUTE
H.STOP
IC114
TC74HC123AF
CONV.PULSE
SW.PULSE
V.BLK
H.SQ.
V0
VGA
IC115
CXA1543M
H OSC,V OSC
MUTE
H.SHIFT
MOIRE.PULSE
H.BAL
H.OSC
IC118 (2/2)
NJM4558V
H.OSC
IC118 (1/2)
NJM4558V
H.OSC
IC116
CXA1544M
PWM
IC130
TC7S66F
MUTE
IC117 (4/4)
MC14011BF
BUFF
H.PIN
CLAMP
GND
VCC
VREF
ΘRV
TIN
PHASE
DELAY
DUTY
CA1
2FH
BTC
RA
IN1+
CA2
IN1-
IN2+
FB1
IN2-
C1
FB2
OUT1
C2

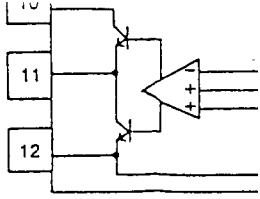
	7	1.2
	8	0
	9	0
	10	0
	11	0.8
	12	–0.7
	13	0
	14	–0.5
	15	1
	16	0.9
	19	0
	20	0
	21	1.9
	23	0.8
	24	1.1
	25	2.7
	26	1.1
	27	2.6
IC102	2	0.8
	3	–0.7
	4	3.2
	5	–0.2
	8	0
	9	1.4
	10	–0.2
	14	0
	15	5.2
	16	5.2
	19	–5
	20	–0.2
	21	0
	22	1.1
	23	0.3
	24	0
	25	–0.5
	26	0.8
	27	0
	28	0
IC303	1	–1.2
	2	0
	3	0
	4	2.8
	5	2.8
	8	–0.7
	9	2.8
	10	0
	11	0
	12	0
	13	0
	14	0
	15	–0.5
	16	0
	17	5.1
	20	5.2
	22	2.8
	23	2.8
	24	2.8

	8	0
	9	0.7
	14	0
	15	5.2
	16	5.2
	20	0
	21	0
	26	0.6
	27	0.6
	28	0
IC105	6	0
	7	1.4
	8	0
	9	0
	10	0
	11	0.5
	12	0.6
	13	0
	14	0
	17	0
	18	0
	19	–0.7
	20	–0.7
	21	0.4
	22	–0.1
	23	0
	24	0
	25	0
	26	0
	27	0
	28	0
	29	0
	30	3.2
IC106	1	–1.5
	2	–0.5
	3	–0.5
	5	0
	6	0
	7	1.6
IC107	1	–0.7
	2	0
	3	0
	5	1.2
	6	1.2
	7	1.6
IC108	1	5.3
	2	3.8
	3	5.2
	5	5.2
	6	5.2
	7	5.2
IC109	1	5.2
	2	3.8
	3	5.2
	5	5.2
	6	5.2
	7	5.2

	6	5.1
	8	0
	9	0
	11	5.2
	12	5.2
IC111	1	2.9
	2	2.4
	3	5.3
	4	5.3
	5	5.3
	7	5.3
	9	0.8
	10	0
	11	5.2
	12	2.5
	13	0.2
	14	0.2
	16	5.2
	17	5.2
	18	5.2
	19	0.2
	20	5.2
	21	3.8
	22	5.2
	23	0
	25	5.2
	26	5.2
	27	5.2
	28	5.2
	29	5.2
	30	5.2
	32	5.2
	33	5.2
	34	0
	35	4.7
	36	4.6
	37	4.2
	38	4.2
	39	5
	42	5.2
	43	5.2
	44	5.2
	45	0
	46	0
	47	0
	55	5.2
	57	5.2
	58	0
	59	0
	60	0.2
	61	5.2
	62	5.2
	63	3.0
	64	5.2
IC112	1	0
	2	1.1
	3	1.1
	5	0
	6	0
	7	1.2

	8	5.2
IC114	2	0
	3	5.3
	5	0.2
	6	0
	7	5
	9	2.1
	10	5.1
	11	5.1
	14	0
	15	4
IC115	1	4.9
	2	0
	3	0.9
	4	7
	5	0.9
	6	8.5
	7	4.9
	8	0
	9	1.2
	10	6.8
	11	6.1
	13	8.7
	15	8.9
	16	2.5
	18	0.8
	19	5
	20	7.6
	22	5.2
	24	0
	25	0.2
	16	0.2
	27	1.9
	28	*
	29	6.3
	30	6.2
IC116	2	5.2
	3	2.5
	4	1.0
	5	0
	6	1.7
	7	*
	8	1.6
	9	3.7
	10	12.2
	11	9
	12	0
	14	0.2
	15	0.2
	16	2.2
	17	2.2
	18	4.3
	19	4
	20	0.5
	21	4.2
	22	4.2
	23	0

	4	11.6
	5	0.8
	6	0.8
	8	2.1
	9	2.1
	10	11.7
	11	11.2
	12	10.4
	13	0
IC119	1	*
	2	2.6
	3	*
	8	0.4
	10	–0.1
	11	5.1
	13	0.3
IC120	2	*
	3	0.4
	4	5.1
	5	2.7
	6	*
	8	2.6
	9	2.6
	11	0.2
	12	2.6
IC121	2	2.5
	3	5.1
	4	*
	5	*
	6	0
	7	4.8
	10	*
	11	5.1
	14	0
	15	4.7
IC122	1	–0.6
	2	–0.2
	3	0
	5	0.3
	6	0.3
	7	0.5
IC130	1	0
	2	0.3
	4	0
IC131	1	5.2
	2	5.2
Q101	B	0
	C	0.2
Q103	B	0.2
	C	5
Q104	B	0
	C	5.2
Q105	B	5.2
	C	1.7
	E	0
Q106	B	5.2
	C	0



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8 Cherry Tree Road, Chinnor
Oxfordshire, OX9 4QY.
Tel (01844) 351694
Fax (01844) 352554
email:- mauritron@dial.pipex.com

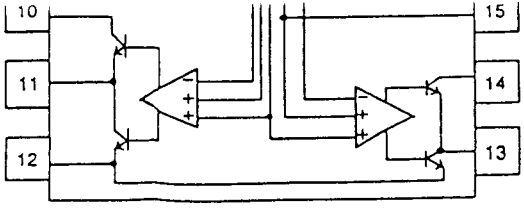
DA BOARD WAVEFORMS

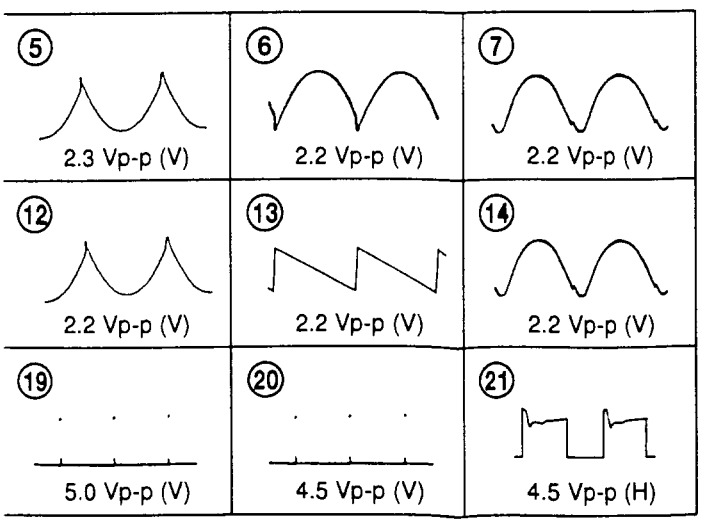
① 5.0 Vp-p (H)	② 4.2 Vp-p (V)	③ 2.2 Vp-p (V)	④ 2.2 Vp-p (V)	⑤ 2.3 Vp-p (V)	⑥ 2.2 Vp-p (V)	⑦ 2.2
⑧ 2.6 Vp-p (H)	⑨ 2.2 Vp-p (H)	⑩ 2.2 Vp-p (V)	⑪ 1.2 Vp-p (V)	⑫ 2.2 Vp-p (V)	⑬ 2.2 Vp-p (V)	⑭ 2.2
⑮ 2.2 Vp-p (V)	⑯ 3.8 Vp-p (H)	⑰ 4.6 Vp-p (H)	⑱ 2.0 Vp-p (V)	⑲ 5.0 Vp-p (V)	⑳ 4.5 Vp-p (V)	㉑ 4.5

Schematic diagrams
← D L **boards**

Schematic diagram
DA **board** →

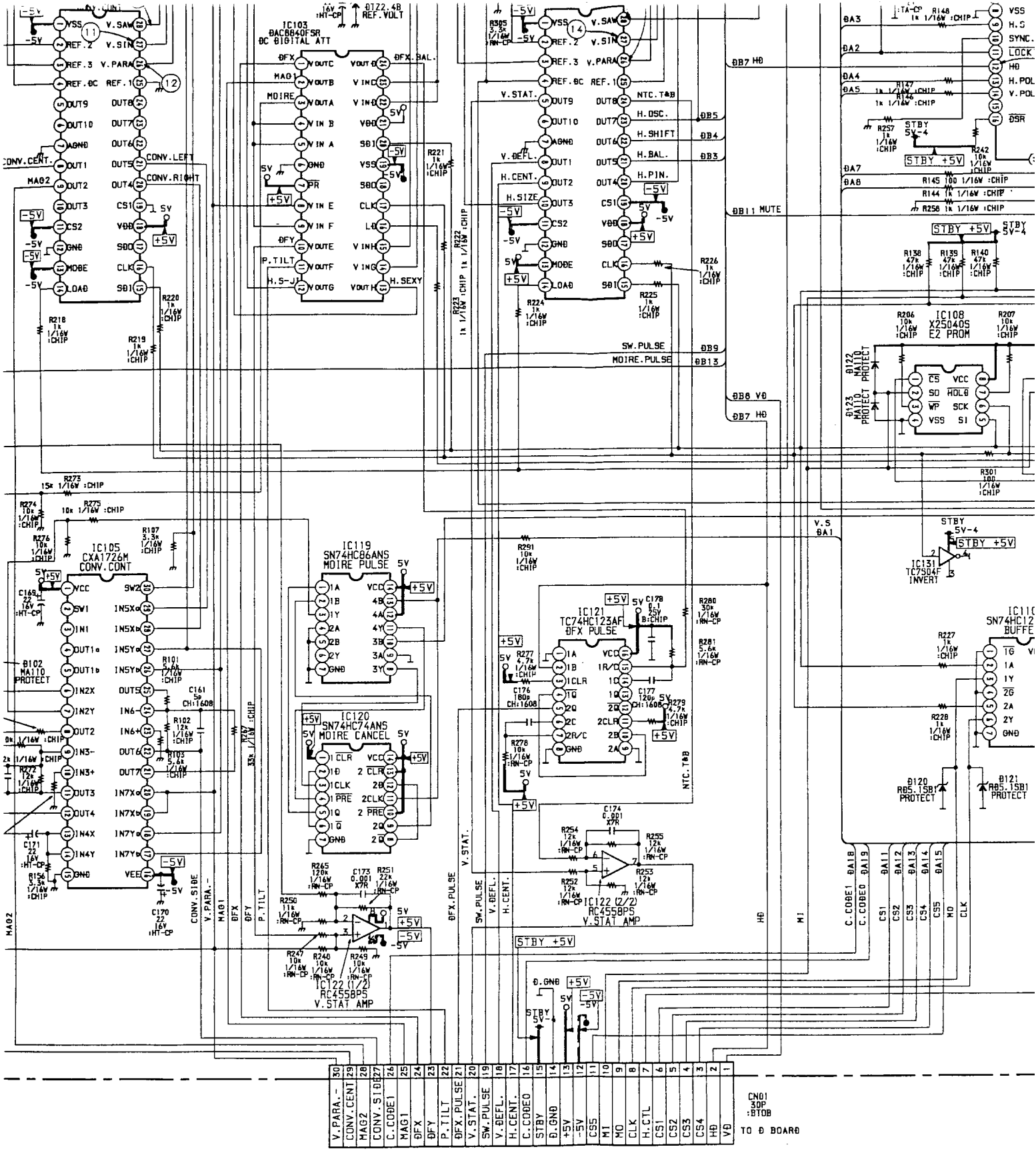
	4	11.6
	5	0.8
	6	0.8
	8	2.1
	9	2.1
	10	11.7
	11	11.2
	12	10.4
	13	0
IC119	1	*
	2	2.6
	3	*
	8	0.4
	10	−0.1
	11	5.1
	13	0.3
IC120	2	*
	3	0.4
	4	5.1
	5	2.7
	6	*
	8	2.6
	9	2.6
	11	0.2
	12	2.6
IC121	2	2.5
	3	5.1
	4	*
	5	*
	6	0
	7	4.8
	10	*
	11	5.1
	14	0
	15	4.7
IC122	1	−0.6
	2	−0.2
	3	0
	5	0.3
	6	0.3
	7	0.5
IC130	1	0
	2	0.3
	4	0
IC131	1	5.2
	2	5.2
Q101	B	0
	C	0.2
Q103	B	0.2
	C	5
Q104	B	0
	C	5.2
Q105	B	5.2
	C	1.7
	E	0
Q106	B	5.2
	C	0

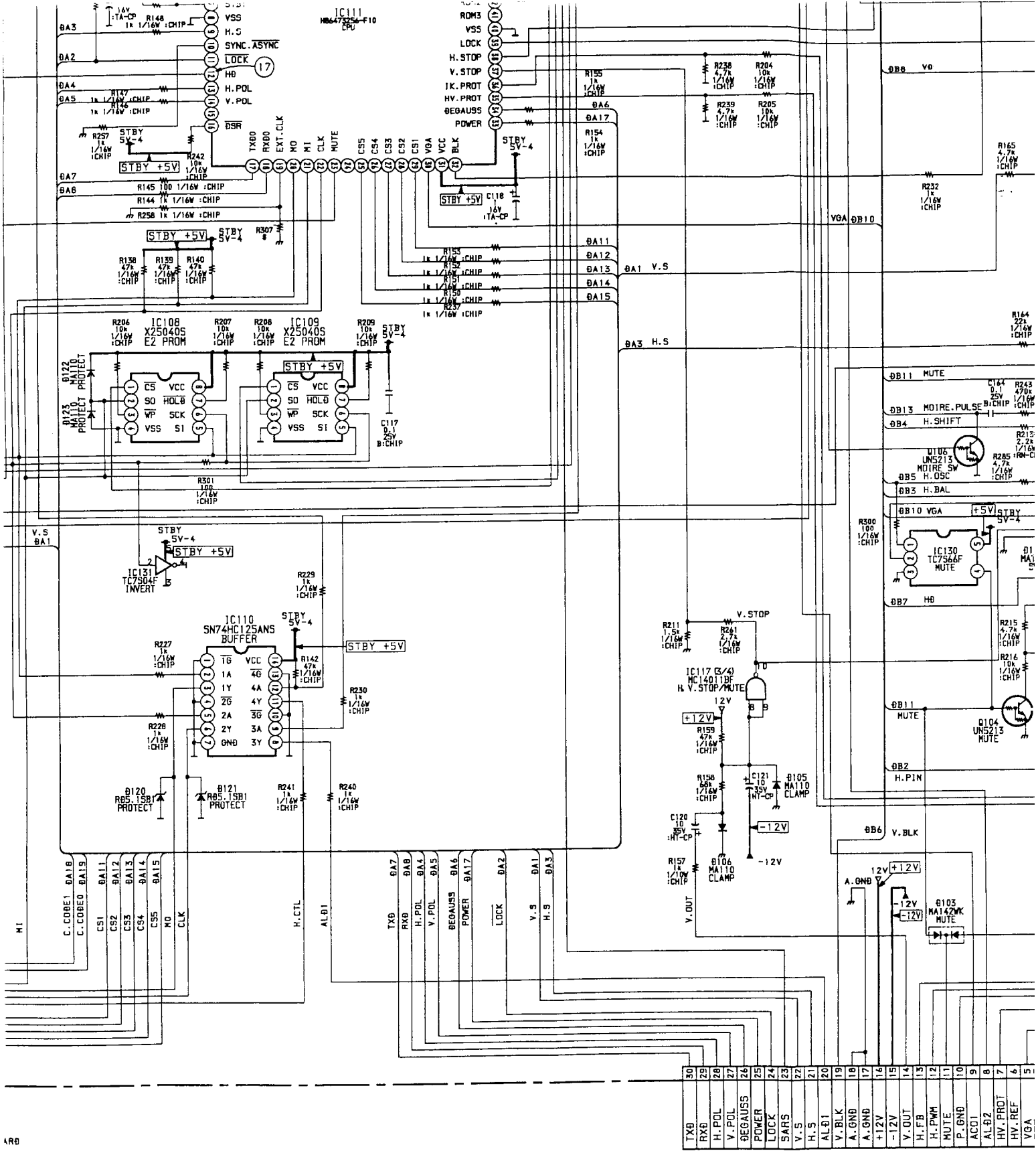


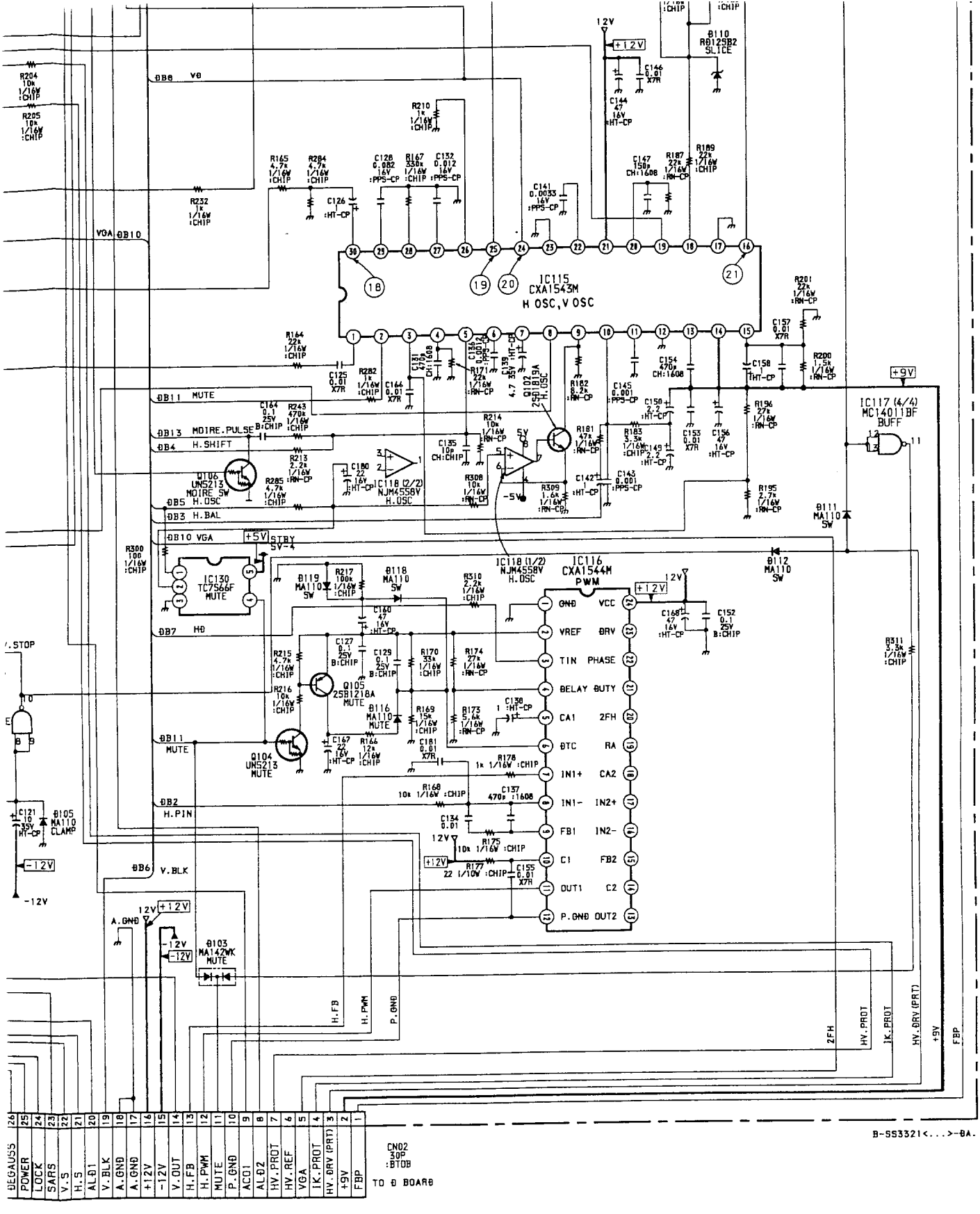


Schematic diagram

DA **board** ➡

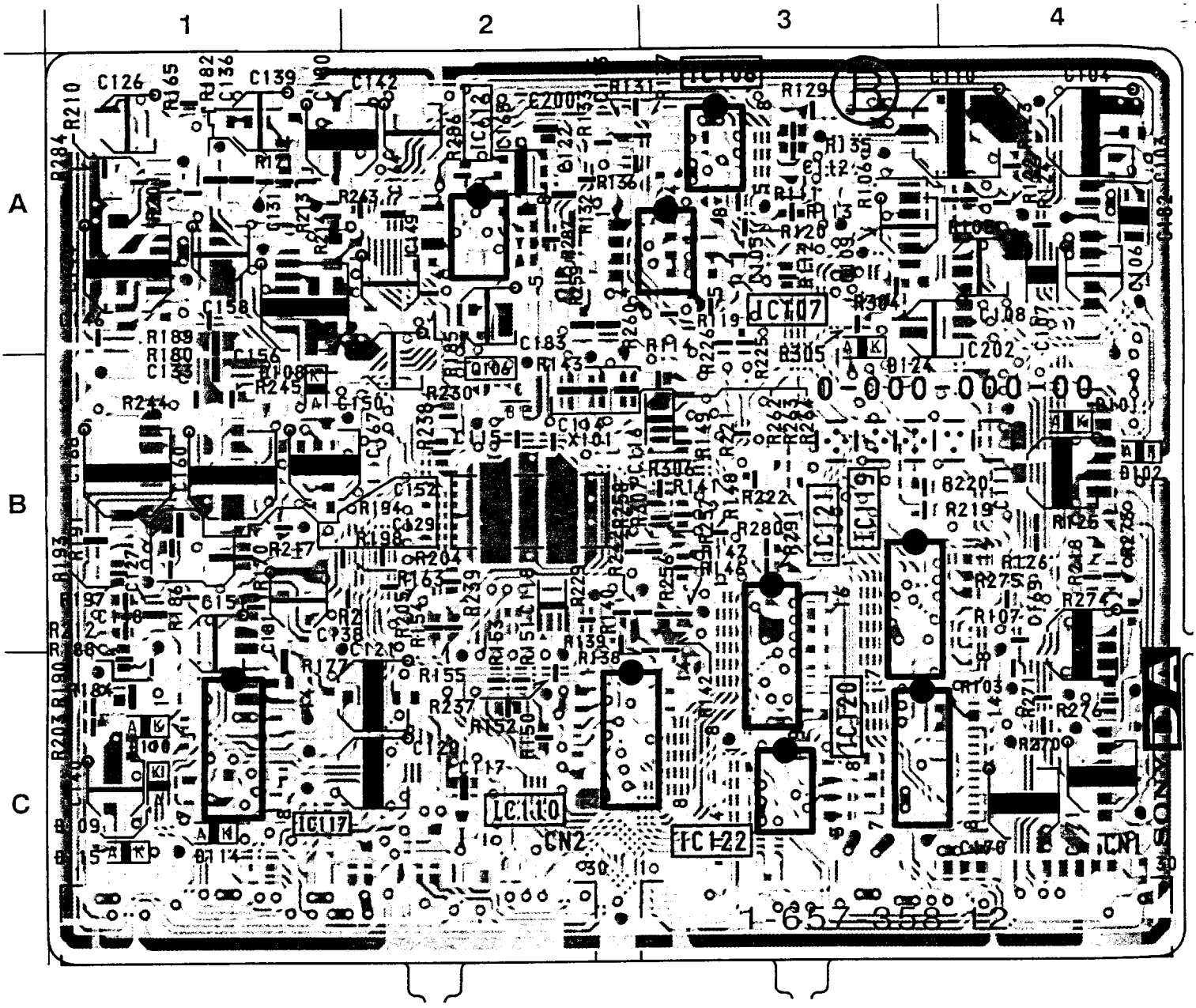

IC103
ΘAC6840FSR
ΘC DIGITAL ATT
IC105
CXA1726M
CONV.CONT
IC119
SN74HC86ANS
MOIRE PULSE
IC120
SN74HC74ANS
MOIRE CANCEL
IC121
TC74HC123AF
ΘFX PULSE
IC122 (1/2)
RC4558P5
V.STAT AMP
IC122 (2/2)
RC4558P5
V.STAT AMP
IC108
X25040S
E2 PROM
IC131
TC7S04F
INVERT
CN01
30P
:BTOB
TO Θ BOARΘ


IC111
M66473256-F10
CPU
VSS
H.S
SYNC.ASYNC
LOCK
H.POL
V.POL
RDM3
LOCK
H.STOP
V.STOP
IK.PROT
HV.PROT
DEGAUSS
POWER
STBY 5V-4
STBY +5V
IC108
X25040S
E2 PROM
IC109
X25040S
E2 PROM
IC110
SN74HC125ANS
BUFFER
IC131
TC7504F
INVERT
IC130
TC7566F
MUTE
IC117 (3/4)
MC14011BF
H. V.STOP/MUTE
Q106
UN5213
MOIRE SW
Q104
UN5213
MUTE
Q105
MA110
CLAMP
Q106
MA110
CLAMP
Q103
MA142WK
MUTE
D122
MA110
PROTECT
D123
MA110
PROTECT
D120
RD5.1SB1
PROTECT
D121
RD5.1SB1
PROTECT
VGA
MUTE
MOIRE.PULSE
H.SHIFT
H.OSC
H.BAL
H.PIN
V.BLK
V.OUT
A.GND
+12V
-12V
V.S
H.S
V.STOP
TXD
RXD
H.POL
V.POL
DEGAUSS
POWER
LOCK
SARS
V.S
H.S
ALD1
V.BLK
A.GND
A.GND
+12V
-12V
V.OUT
H.FB
H.PWM
MUTE
P.GND
ACD1
ALD2
HV.PROT
HV.REF
VGA


IC115
CXA1543M
H OSC, V OSC
IC116
CXA1544M
PWM
IC117 (4/4)
MC14011BF
BUFF
IC118 (1/2)
NJM4558V
H.OSC
IC118 (2/2)
NJM4558V
H.OSC
IC130
TC7566F
MUTE
Q104
UN5213
MUTE
Q105
2SB1218A
MUTE
Q106
UN5213
MOIRE SW
B110
RD12SB2
SLICE
B111
MA110
SW
B112
MA110
SW
B116
MA110
MUTE
B118
MA110
SW
B119
MA110
SW
B103
MA142WK
MUTE
B105
MA110
CLAMP
+12V
-12V
+9V
+5V
STBY 5V-4
A.GND
V.STOP
H.SHIFT
MOIRE.PULSE
H.OSC
H.BAL
VGA
MUTE
H.PIN
V.BLK
HD
VD
H.FB
H.PWM
P.GND
2FH
HV.PROT
IK.PROT
HV.GRV (PRT)
FBP
CN02
30P
:BTOB
TO B BOARD
DEGAUSS
POWER
LOCK
SARS
V.S
H.S
ALB1
V.BLK
A.GND
A.GND
+12V
-12V
V.OUT
H.FB
H.PWM
MUTE
P.GND
ACO1
ALB2
HV.PROT
HV.REF
VGA
IK.PROT
HV.GRV (PRT)
+9V
FBP
B-SS3321<...>-BA.

DA [V. BLK, HV REG, HV PROT]

— DA Board (Conductor Side) —



- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

● DA BOARD

IC

	(Conductor Side)	(Component Side)
IC101		A–1
IC102		A–2
IC103		B–2
IC104		B–4
IC105		C–1
IC106	A–3	
IC107	A–3	
IC108		C–3
IC109		C–3
IC110	C–2	
IC111		B–2
IC112	A–2	
IC113		A–2
IC114		B–4
IC115		A–4
IC116		B–4
IC117	C–1	
IC119	B–3	
IC120	C–3	
IC121	B–3	
IC122	C–3	
IC130		A–3
IC131		C–3

TRANSISTOR

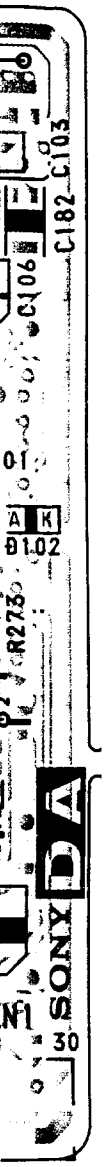
	(Conductor Side)	(Component Side)
Q101		A–2
Q103		A–3
Q104		B–3
Q105		B–3
Q106	B–2	
Q107		A–3

DIODE

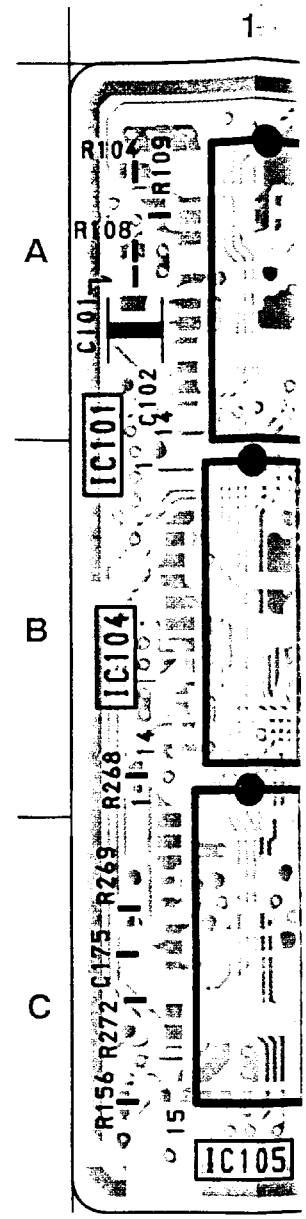
	(Conductor Side)	(Component Side)
D101	B–4	
D102	B–4	
D105		C–4
D106		C–4
D108	B–1	
D109	C–1	
D110	C–1	
D111		C–4
D112		C–3
D116		B–3
D118		B–3
D119		B–3
D120		C–2
D121		C–2
D122		C–3
D123		C–3
D124		B–3

CRYSTAL

	(Conductor Side)	(Component Side)
X101	B–2	

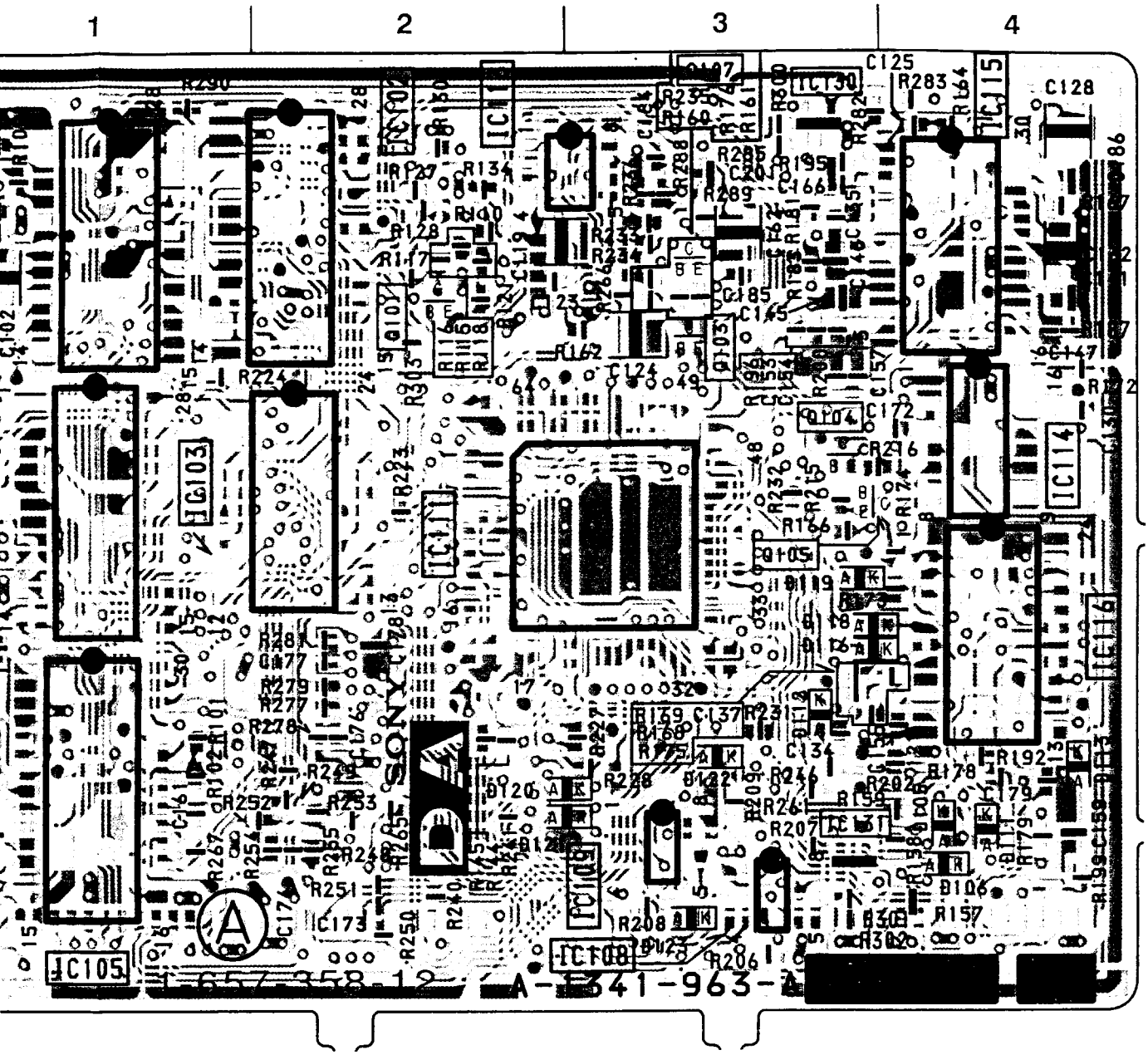


— DA Board (Componer



• : Pattern from th
• : Pattern of the r

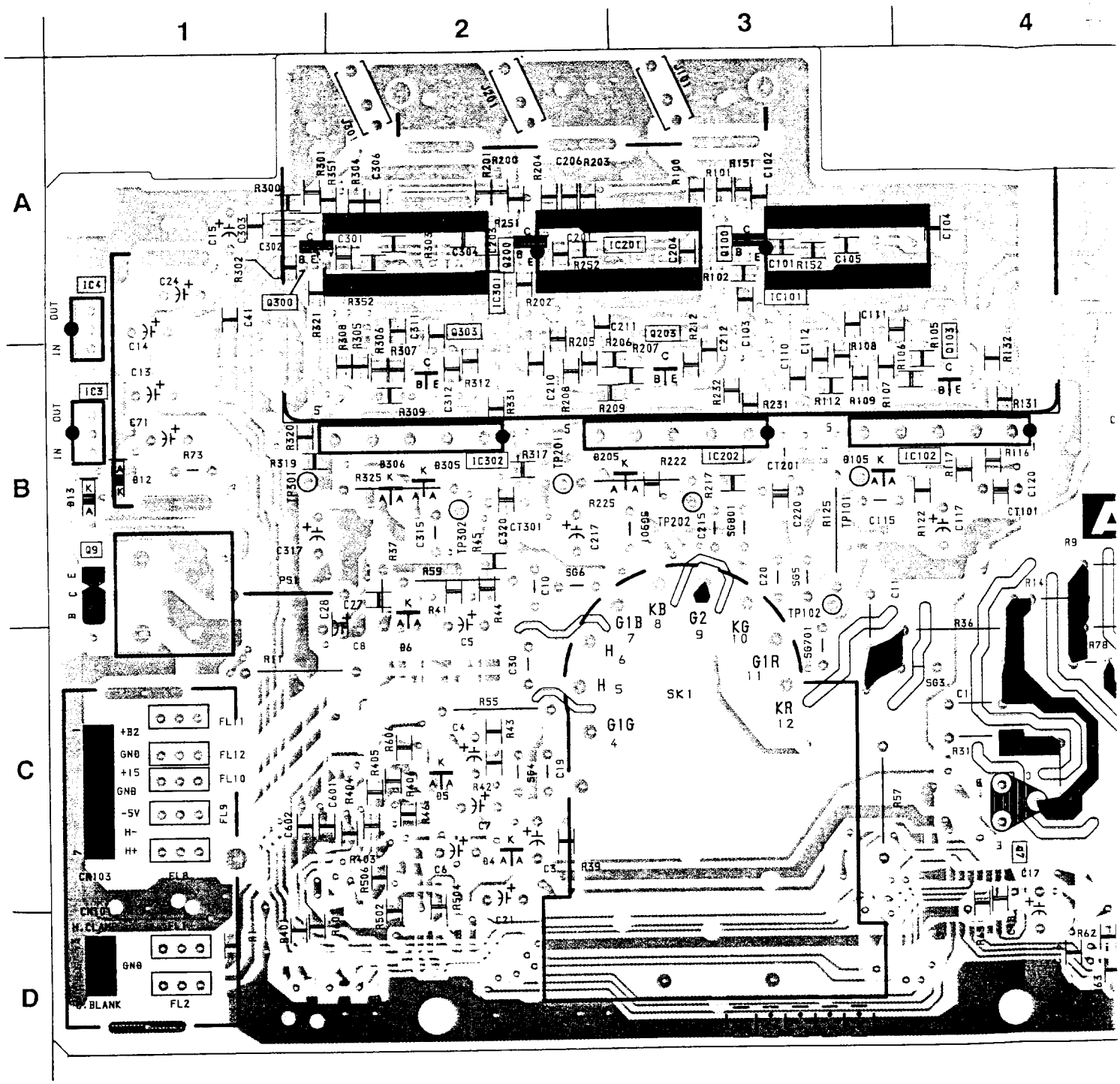
rd (Component Side) —



: Pattern from the side which enables seeing.
: Pattern of the rear side.

A [VIDEO]

— A Board (Conductor Side) —

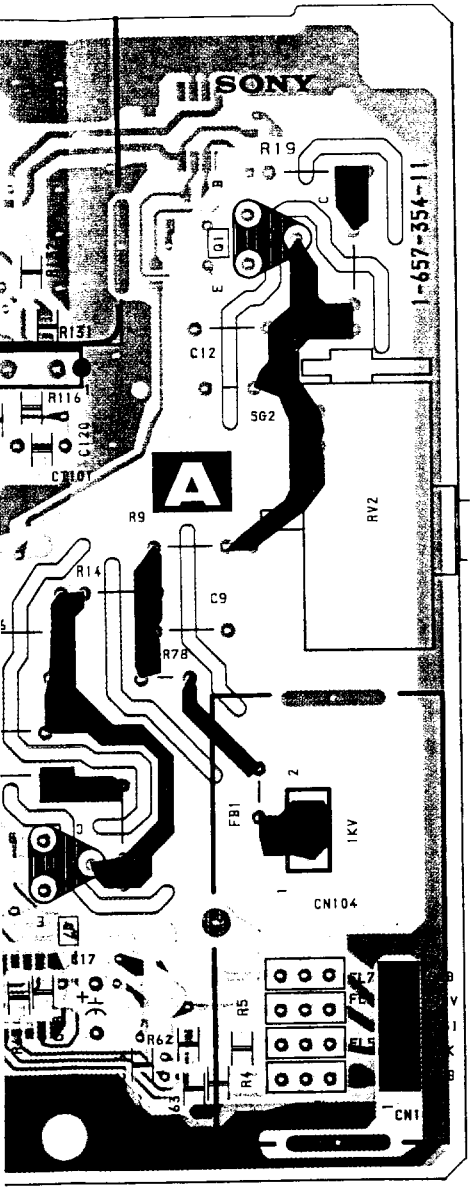


- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

For Service Manuals
MAURITRON SERVICES
8 Cherry Tree Road, Chinnor
Oxfordshire, OX9 4QY.
Tel (01844) 351694
Fax (01844) 352554
email:- mauritron@dial.pipex.com

— A Board (Comp

4 | 5



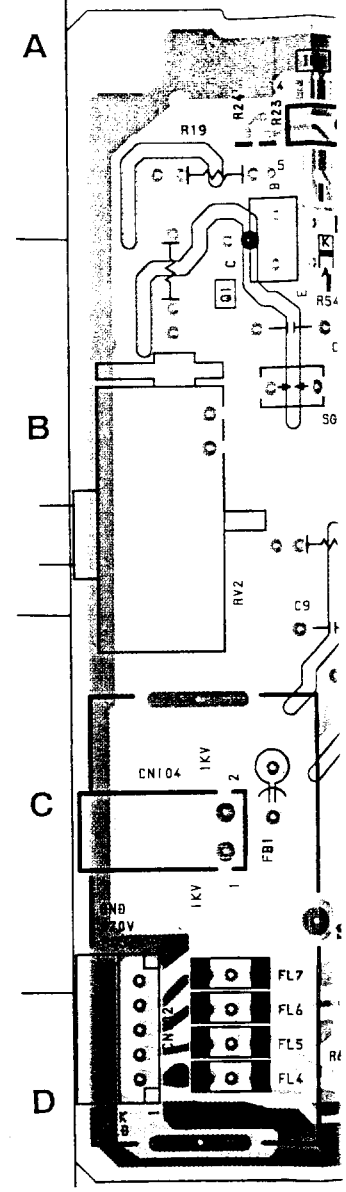
● A BOARD

IC	(Conductor Side)	(Component Side)
IC1		C–4
IC2		D–4
IC3	B–1	B–5
IC4	A–1	A–5
IC5		D–2
IC9		A–1
IC101	A–3	A–2
IC102	B–4	B–2
IC201	A–3	A–3
IC202	B–3	B–3
IC301	A–2	A–4
IC302	B–2	B–4

TRANSISTOR	(Conductor Side)	(Component Side)
Q1	B–4	B–1
Q2		C–4
Q5		C–4
Q7	D–4	C–2
Q9	B–1	B–5
Q100	A–3	
Q100	A–3	
Q101		B–2
Q102		B–2
Q103	B–4	
Q104		B–2
Q105		B–2
Q200	A–2	
Q201		B–3
Q202		B–3
Q203	B–3	
Q204		B–3
Q205		B–3
Q300	A–1	
Q301		B–4
Q302		B–4
Q303	B–2	
Q304		B–3
Q305		B–3
Q400		C–4
Q500		C–4
Q600		C–4

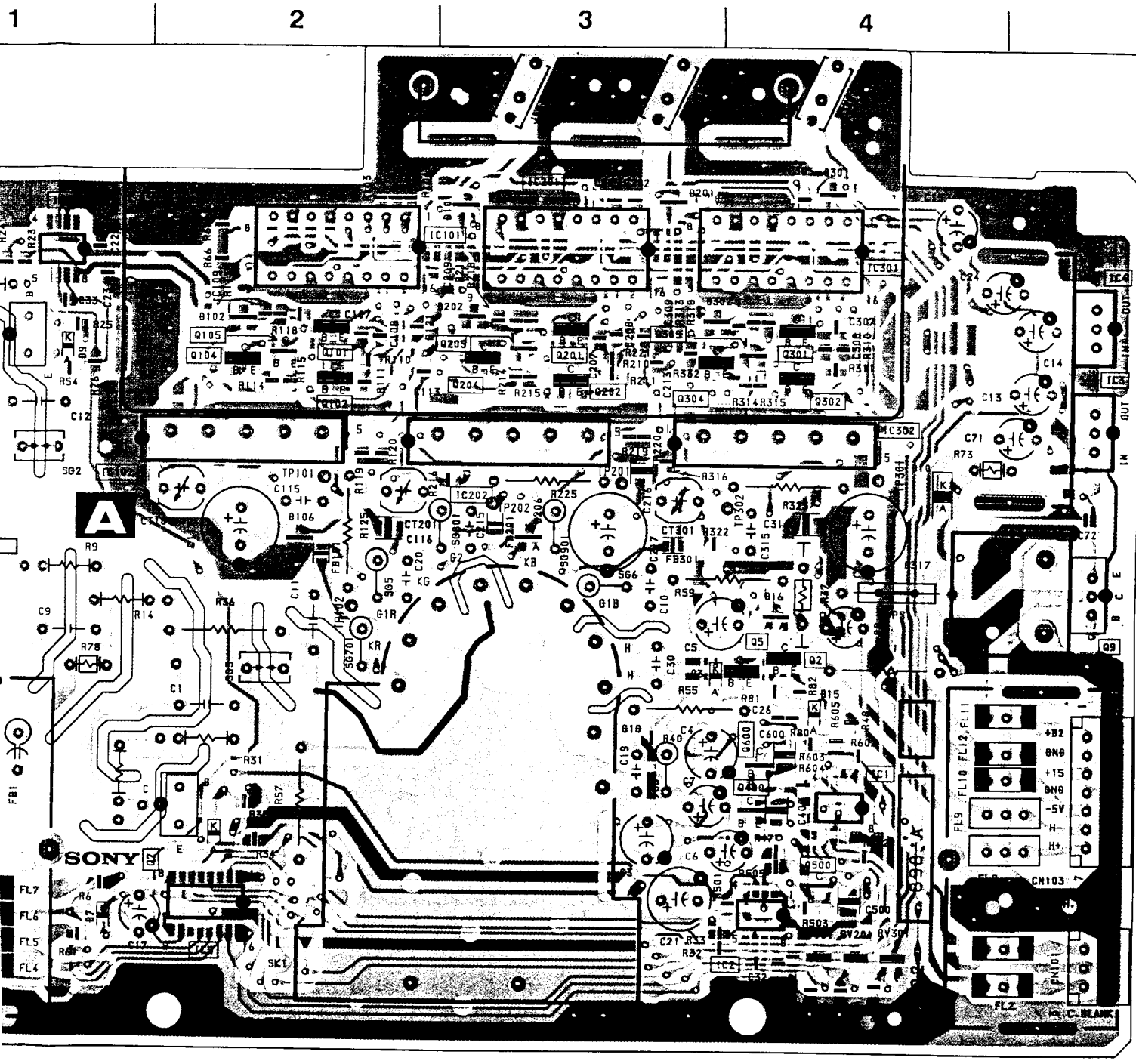
DIODE	(Conductor Side)	(Component Side)
D1		C–2
D3		C–3
D4	C–2	
D5	C–2	
D6	C–2	
D7		D–1
D9		B–1
D10		B–4
D12	B–1	
D13	B–1	
D15		C–4
D16		B–4
D101		A–3
D102	A–2	
D105	B–3	
D106		B–2
D201		A–3
D202		A–3
D205	B–2	
D206		B–3
D301		A–4
D302		A–3
D305	B–2	
D306	B–2	

1

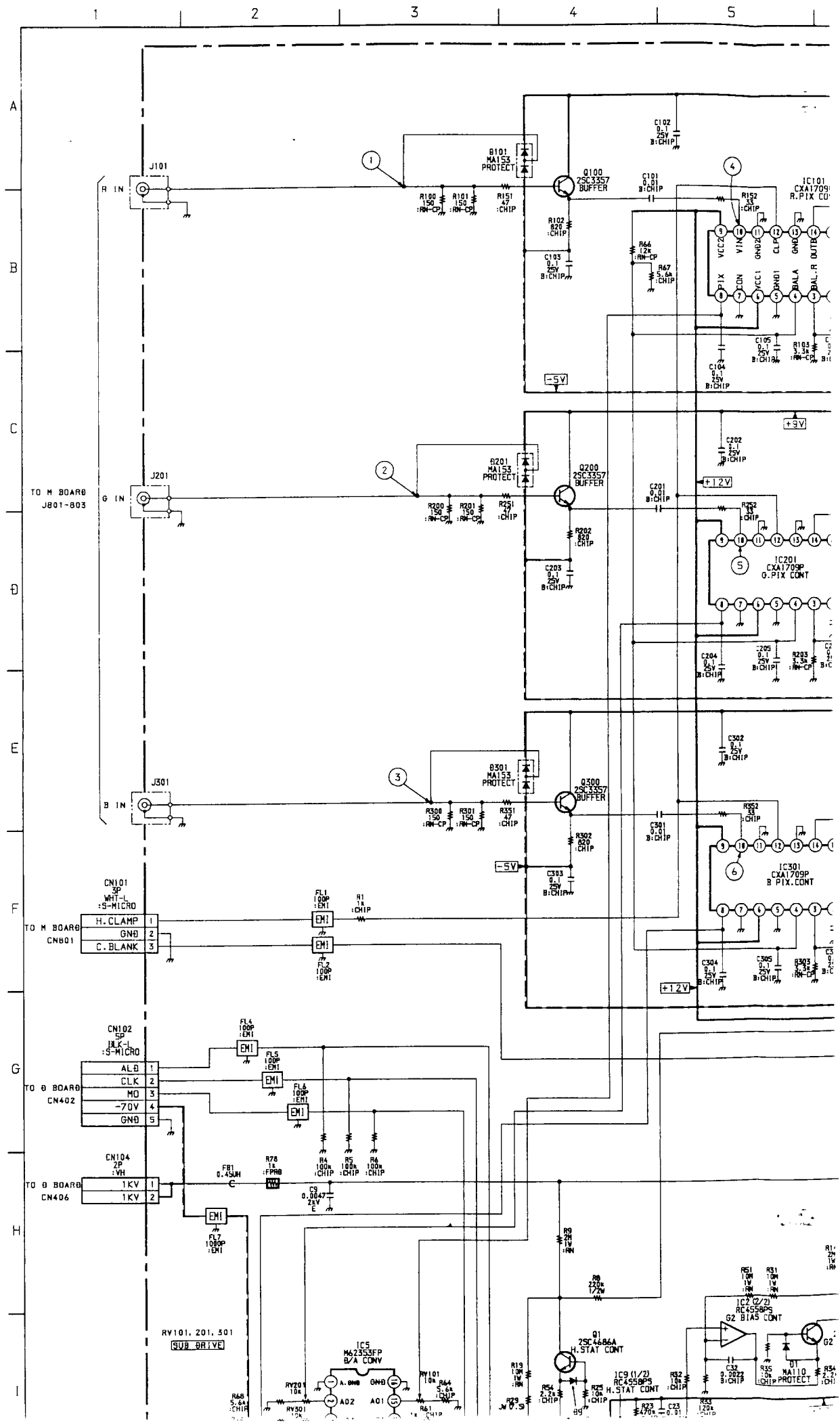


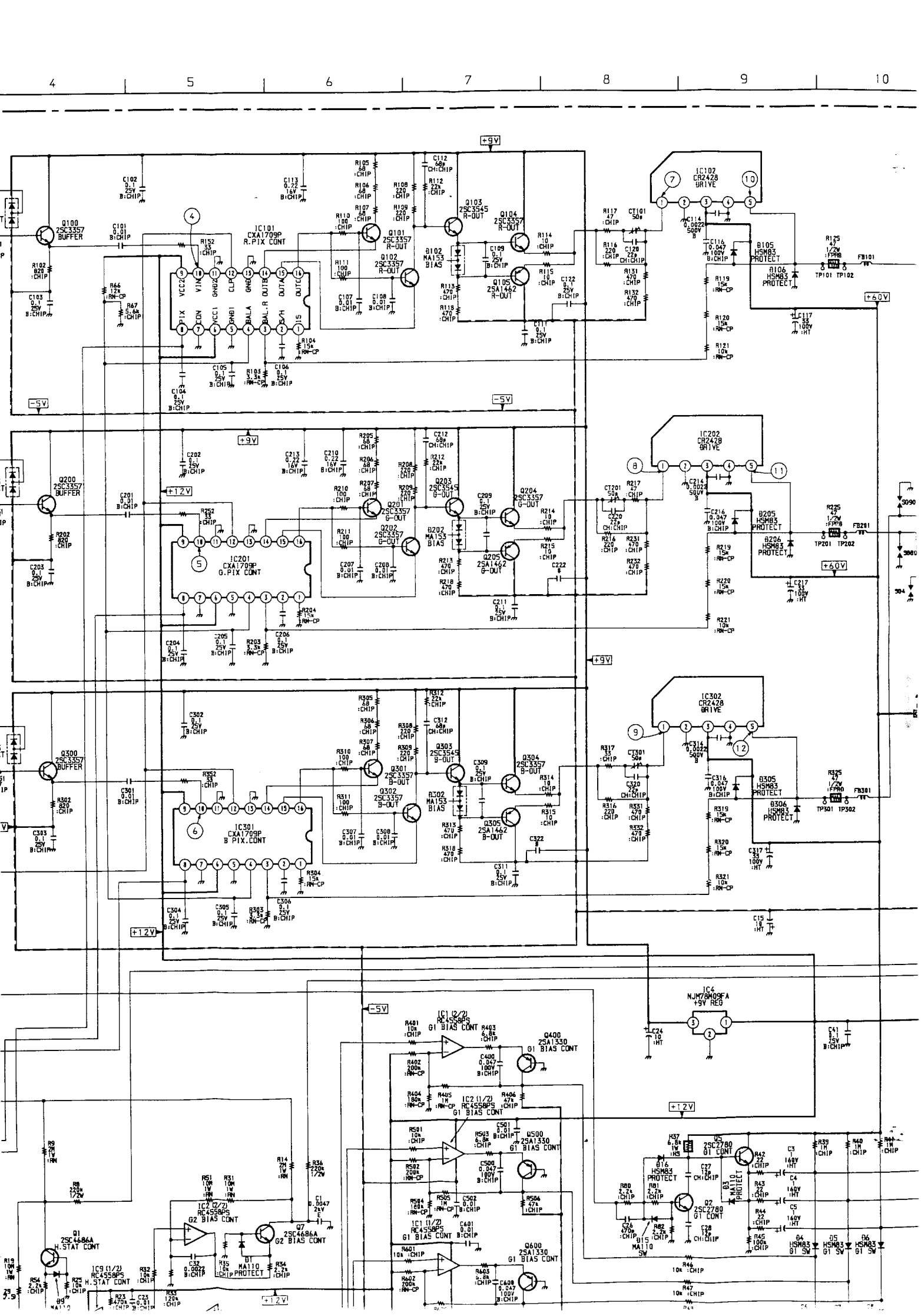
• : Pattern from the sid
• : Pattern of the rear si

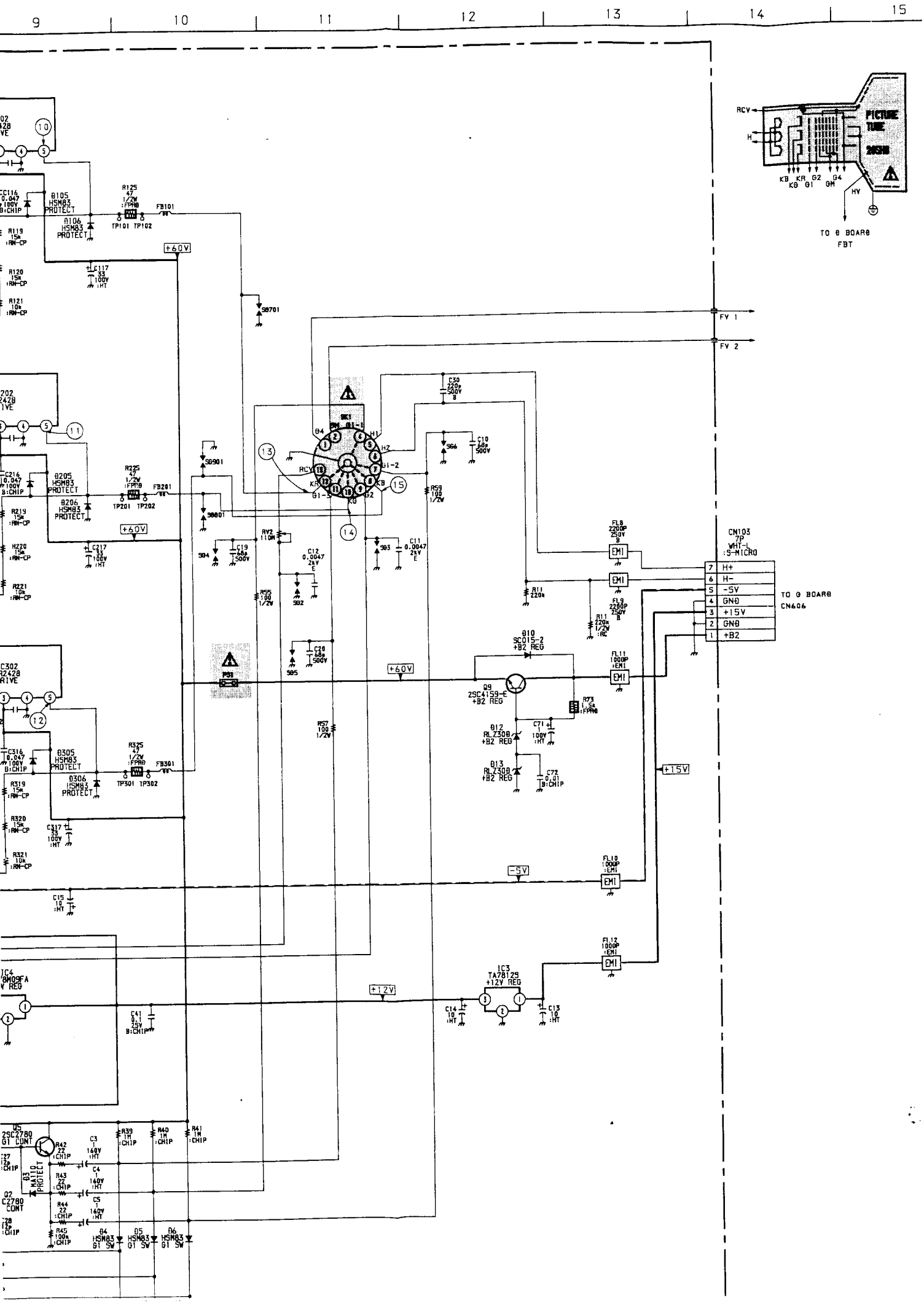
ard (Component Side) —

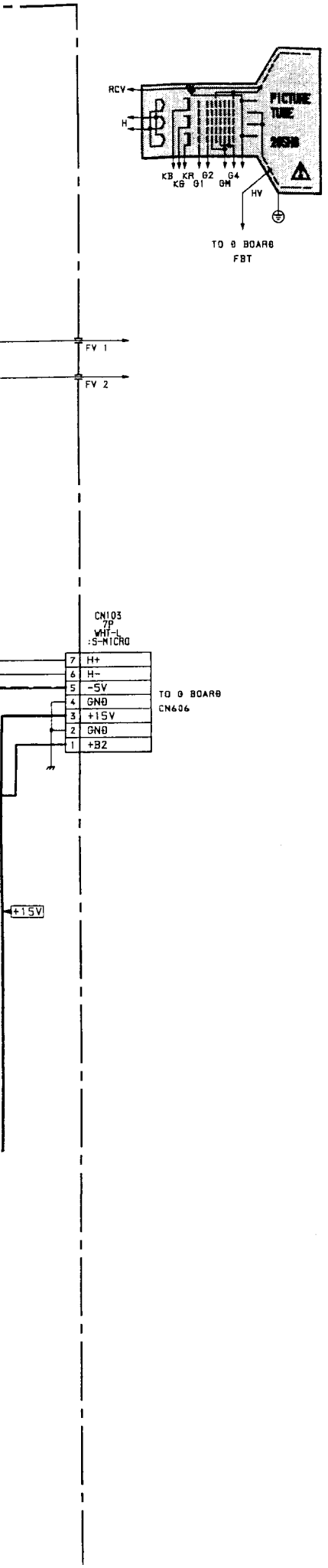


(3) Schematic Diagram of A Board




4
5
6
7
8
9
10
+9V
-5V
+12V
+60V
IC101 CXA1709P R.PIX CONT
IC201 CXA1709P G.PIX CONT
IC301 CXA1709P B PIX.CONT
IC102 CR2428 DRIVE
IC202 CR2428 DRIVE
IC302 CR2428 DRIVE
IC4 NJM78M09FA +9V REG
Q100 2SC3357 BUFFER
Q200 2SC3357 BUFFER
Q300 2SC3357 BUFFER
Q101 2SC3357 R-OUT
Q102 2SC3357 R-OUT
Q103 2SC3545 R-OUT
Q104 2SC3357 R-OUT
Q105 2SA1462 R-OUT
Q201 2SC3357 G-OUT
Q202 2SC3357 G-OUT
Q203 2SC3545 G-OUT
Q204 2SC3357 G-OUT
Q205 2SA1462 G-OUT
Q301 2SC3357 B-OUT
Q302 2SC3357 B-OUT
Q303 2SC3545 B-OUT
Q304 2SC3357 B-OUT
Q305 2SA1462 B-OUT
B102 MA153 BIAS
B202 MA153 BIAS
B302 MA153 BIAS
B105 HSM83 PROTECT
B106 HSM83 PROTECT
B205 HSM83 PROTECT
B206 HSM83 PROTECT
B305 HSM83 PROTECT
B306 HSM83 PROTECT
B16 HSM83 PROTECT
B15 MA110 SW
B1 MA110 PROTECT
Q1 2SC4686A H.STAT CONT
Q7 2SC4686A G2 BIAS CONT
Q5 2SC2780 G1 CONT
Q2 2SC2780 G1 CONT
Q400 2SA1330 G1 BIAS CONT
Q500 2SA1330 G1 BIAS CONT
Q600 2SA1330 G1 BIAS CONT
IC1 (1/2) RC4558PS G1 BIAS CONT
IC1 (2/2) RC4558PS G1 BIAS CONT
IC2 (1/2) RC4558PS G1 BIAS CONT
IC2 (2/2) RC4558PS G2 BIAS CONT
IC9 (1/2) RC4558PS H.STAT CONT
Q3 HSM83 G1 SW
Q4 HSM83 G1 SW
Q5 HSM83 G1 SW
Q6 HSM83 G1 SW
TP101 TP102
TP201 TP202
TP301 TP302
FB101
FB201
FB301
3090
3080
394


9
10
11
12
13
14
15
RCV
H
KB KR G2 G4
KG G1 GM
HV
PICTURE TUBE
TO G BOARD FBT
FV 1
FV 2
+60V
+15V
-5V
+12V
+B2
CN103
7P
WHT-L
:S-MICRO
7 H+
6 H-
5 -5V
4 GND
3 +15V
2 GND
1 +B2
TO G BOARD CN606
B105 HSM83 PROTECT
B106 HSM83 PROTECT
B205 HSM83 PROTECT
B206 HSM83 PROTECT
B305 HSM83 PROTECT
B306 HSM83 PROTECT
TP101 TP102
TP201 TP202
TP501 TP502
FB101
FB201
FB301
SK1
Q9 2SC4159-E +B2 REG
Q10 SC015-2 +B2 REG
Q12 RLZ30B +B2 REG
Q13 RLZ30B +B2 REG
IC3 TA78129 +12V REG
Q5 2SC2780 G1 CONT
Q3 MA110 PROTECT
Q2 2SC2780 CONT
D4 HSM83 G1 SW
D5 HSM83 G1 SW
D6 HSM83 G1 SW



VOLTAGE LIST

● A BOARD

Ref.	Pin No.	Voltage [V]
IC1	1	*
	2	*
	3	*
	4	*
	5	*
	6	*
	7	*
	8	*
IC2	1	*
	2	*
	3	*
	5	*
	6	*
	7	*
IC5	2	*
	3	*
	4	*
	5	*
	6	*
	7	*
	10	*
	11	*
	12	*
	13	*
	14	*
	15	*
IC9	5	*
	6	*
	7	*
IC101	1	3.2
	2	6.9
	3	3.1
	4	4
	8	3.4
	10	4
	12	0.5
	14	1.9
	15	2
	16	2.7
IC102	1	1.7
	5	35.2
IC201	1	3.2
	2	6.8
	3	3.2
	4	4
	8	3.2
	10	3.9
	12	0.5
	14	2
	15	2
	16	2.7
IC202	1	1.7
	5	36.6
IC301	1	3.3
	2	6.8
	3	3.2
	4	4
	8	3
	10	3.9
	12	0.5
	14	1.9
	15	2
	16	2.7
IC302	1	1.7
	5	36.4
Q1	B	0
	C	254
	E	-0.7
Q2	B	*
	C	*
Q5	B	*
	C	*
	E	*

A BOARD WAVEFORMS

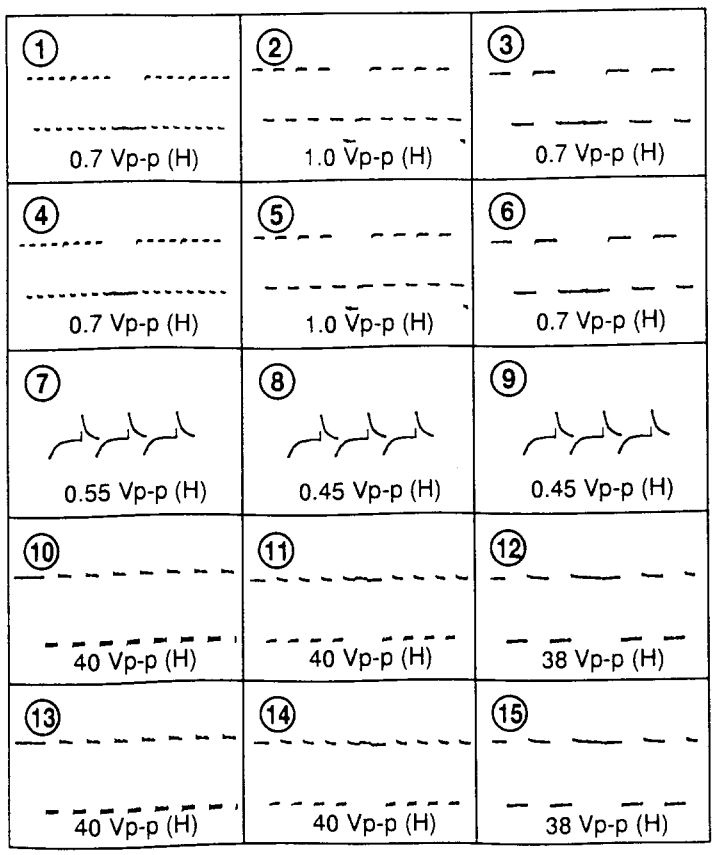
① 0.7 Vp-p (H)	② 1.0 Vp-p (H)
④ 0.7 Vp-p (H)	⑤ 1.0 Vp-p (H)
⑦ 0.55 Vp-p (H)	⑧ 0.45 Vp-p (H)
⑩ 40 Vp-p (H)	⑪ 40 Vp-p (H)
⑬ 40 Vp-p (H)	⑭ 40 Vp-p (H)

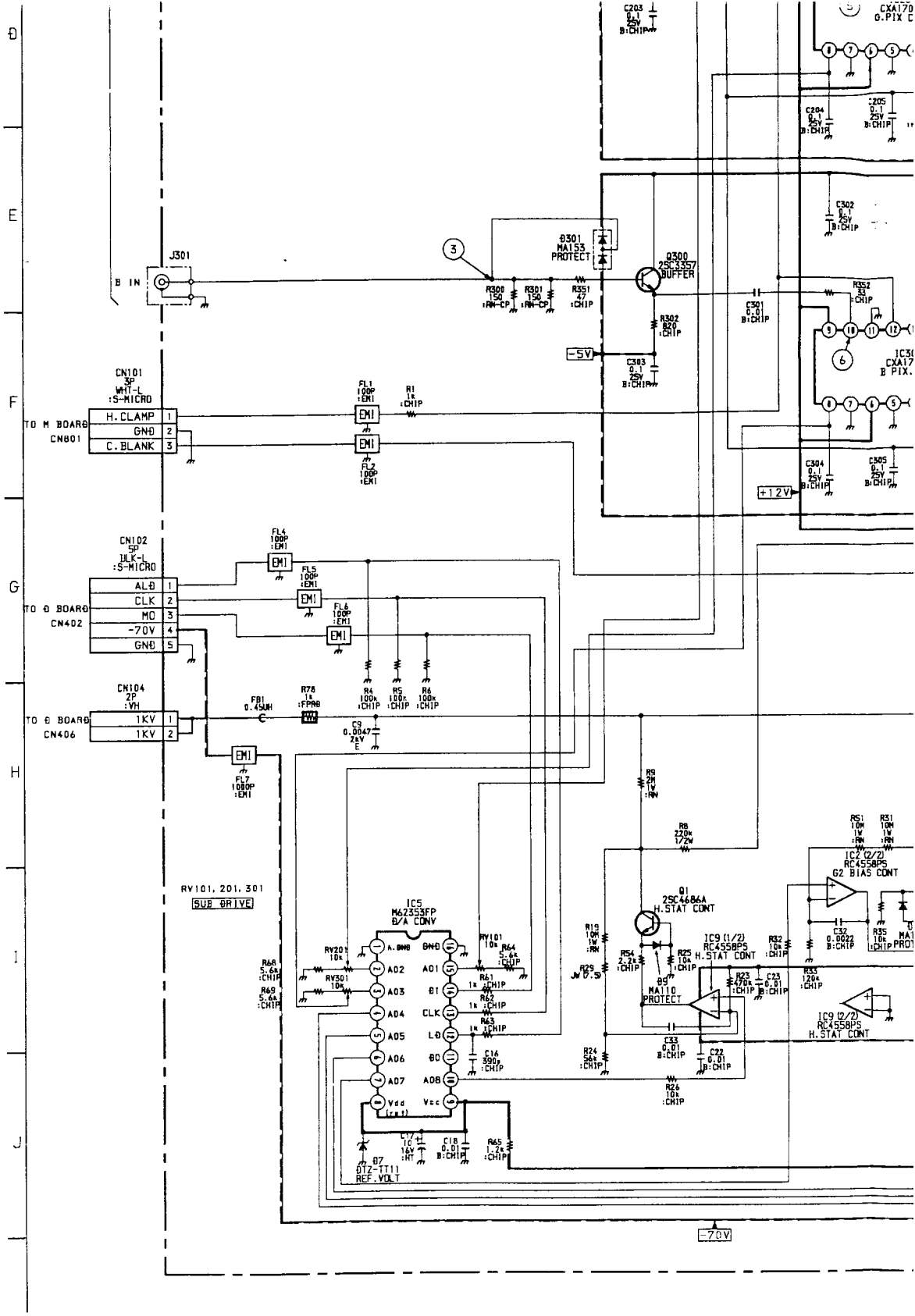
VOLTAGE LIST

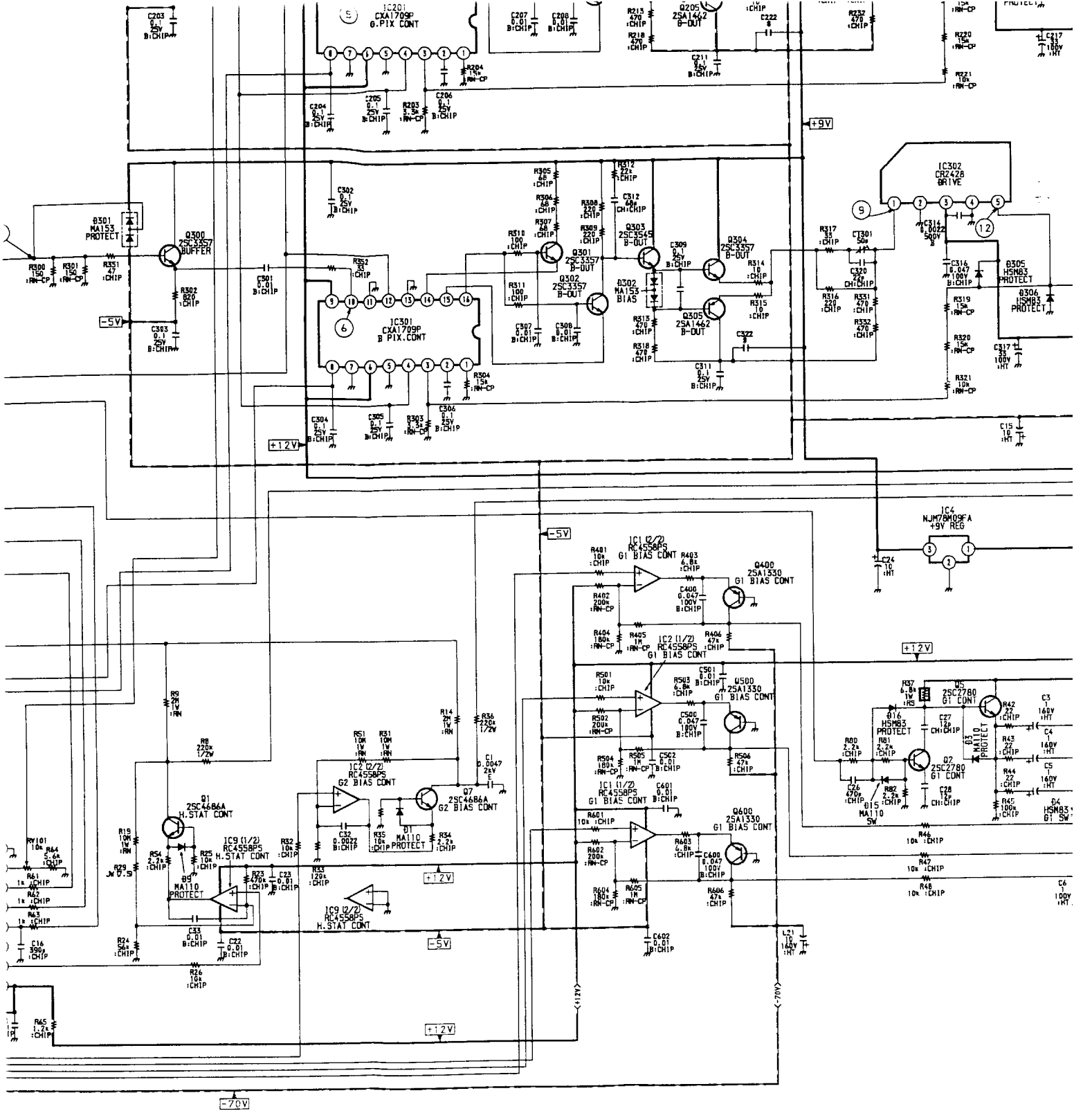
● A BOARD

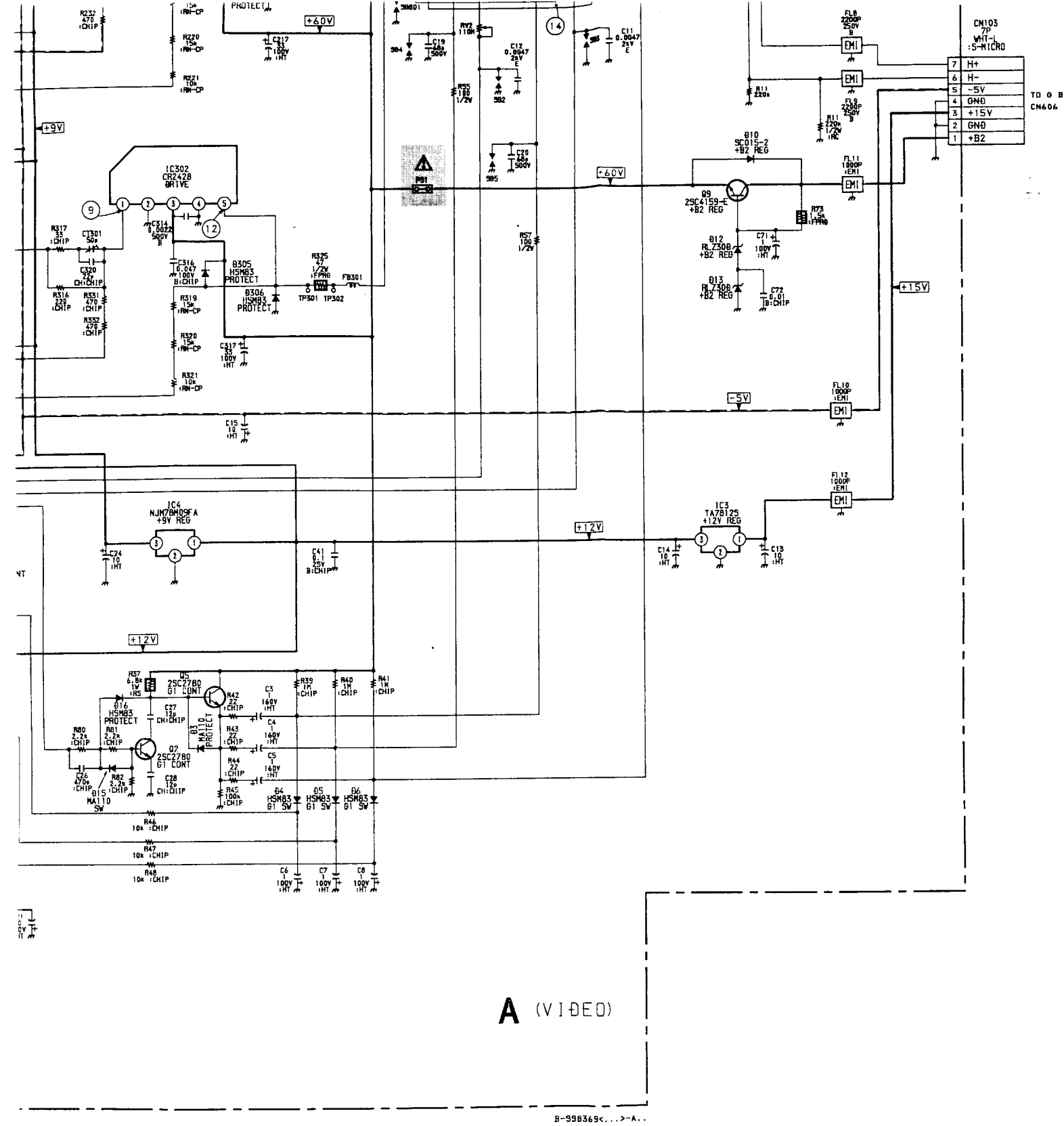
Ref.	Pin No.	Voltage [V]
IC1	1	*
	2	*
	3	*
	4	*
	5	*
	6	*
	7	*
	8	*
IC2	1	*
	2	*
	3	*
	5	*
	6	*
	7	*
IC5	2	*
	3	*
	4	*
	5	*
	6	*
	7	*
	10	*
	11	*
	12	*
	13	*
	14	*
	15	*
IC9	5	*
	6	*
	7	*
IC101	1	3.2
	2	6.9
	3	3.1
	4	4
	8	3.4
	10	4
	12	0.5
	14	1.9
	15	2
	16	2.7
IC102	1	1.7
	5	35.2
IC201	1	3.2
	2	6.8
	3	3.2
	4	4
	8	3.2
	10	3.9
	12	0.5
	14	2
	15	2
	16	2.7
IC202	1	1.7
	5	36.6
IC301	1	3.3
	2	6.8
	3	3.2
	4	4
	8	3
	10	3.9
	12	0.5
	14	1.9
	15	2
	16	2.7
IC302	1	1.7
	5	36.4
Q1	B	0
	C	254
	E	–0.7
Q2	B	*
	C	*
Q5	B	*
	C	*
	E	*
Q7	B	0
	C	290
	E	–0.6
Q9	B	62.5
Q100	B	0.4
	E	–0.5
Q101	B	*
	C	*
	E	*
Q102	B	*
	C	*
	E	*
Q103	B	4.4
	E	3.7
Q104	B	*
	E	*
Q105	B	*
	E	*
Q200	B	0.3
	E	–0.5
Q201	B	*
	C	*
	E	*
Q202	B	*
	C	*
	E	*
Q203	B	4.4
	E	3.7
Q204	B	*
	E	*
Q205	B	*
	E	*
Q300	B	0.4
	E	–0.4
Q301	B	*
	C	*
	E	*
Q302	B	*
	C	*
	E	*
Q303	B	4.3
	E	3.6
Q304	B	*
	E	*
Q305	B	*
	E	*
Q400	C	*
	E	*
Q500	C	*
	E	*
Q600	C	*
	E	*

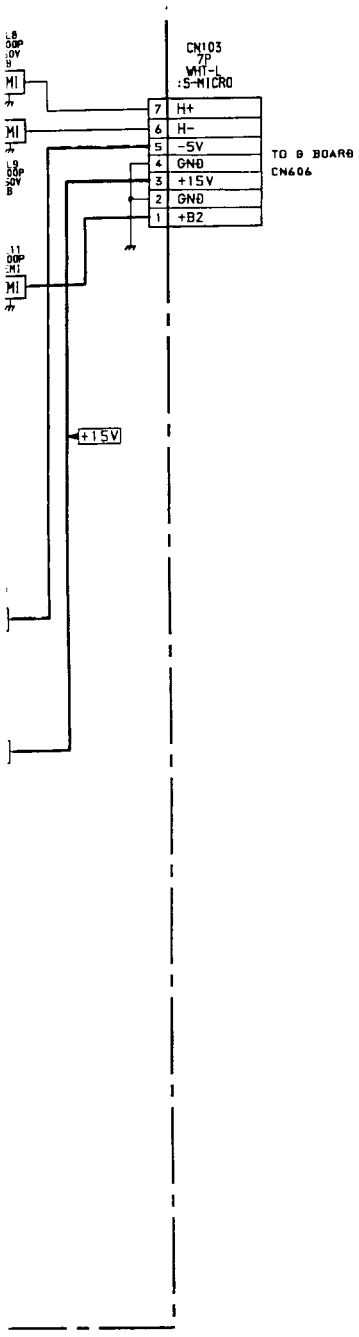
A BOARD WAVEFORMS




J301
B IN
Q300
2SC3357
BUFFER
D301
MA153
PROTECT
-5V
+12V
-70V
CN101
3P
WHT-L
:S-MICRO
TO M BOARD
CN801
H.CLAMP
GND
C.BLANK
CN102
5P
BLK-L
:S-MICRO
AL-D
CLK
MO
-70V
GND
TO D BOARD
CN402
CN104
2P
:YH
1KV
1KV
TO E BOARD
CN406
RV101, 201, 301
SUB DRIVE
IC5
M62353FP
D/A CONV
Q1
2SC4686A
H.STAT CONT
IC2 (2/2)
RC4558PS
G2 BIAS CONT
IC9 (1/2)
RC4558PS
H.STAT CONT
IC9 (2/2)
RC4558PS
H.STAT CONT
D7
DTZ-TII
REF.VOLT
D9
MA110
PROTECT


IC201
CXA1709P
G.PIX CONT
+9V
IC302
CR2428
DRIVE
IC301
CXA1709P
B.PIX.CONT
-5V
+12V
Q300
2SC3357
BUFFER
Q301
2SC3357
B-OUT
Q302
2SC3357
B-OUT
Q303
2SC3545
B-OUT
Q304
2SC3357
B-OUT
Q305
2SA1462
B-OUT
D301
MA153
PROTECT
D302
MA153
BIAS
D305
HSM83
PROTECT
D306
HSM83
PROTECT
IC4
NJM78M09FA
+9V REG
IC1 (2/2)
RC4558PS
G1 BIAS CONT
IC2 (1/2)
RC4558PS
G1 BIAS CONT
IC2 (2/2)
RC4558PS
G2 BIAS CONT
IC1 (1/2)
RC4558PS
G1 BIAS CONT
IC9 (1/2)
RC4558PS
H.STAT CONT
IC9 (2/2)
RC4558PS
H.STAT CONT
Q400
2SA1330
G1 BIAS CONT
Q500
2SA1330
G1 BIAS CONT
Q600
2SA1330
G1 BIAS CONT
Q1
2SC4686A
H.STAT CONT
Q7
2SC4686A
G2 BIAS CONT
Q5
2SC2780
G1 CONT
Q7
2SC2780
G1 CONT
D1
MA110
PROTECT
D3
MA110
PROTECT
D15
MA110
SW
D16
HSM83
PROTECT
Q4
HSM83
G1 SW
-70V


CN103
7P
WHT-L
:5-MICRO
7 H+
6 H-
5 -5V
4 GND
3 +15V
2 GND
1 +B2
TO G B
CN606
+60V
+9V
+12V
+15V
-5V
IC302
CR2428
DRIVE
IC4
NJM78M09FA
+9V REG
IC3
TA78125
+12V REG
Q9
2SC4159-E
+B2 REG
D10
SC015-2
+B2 REG
D12
RLZ30D
+B2 REG
D13
RLZ30B
+B2 REG
Q5
2SC2780
G1 CONT
Q7
2SC2780
G1 CONT
D16
HSM83
PROTECT
D3
MA110
PROTECT
D15
MA110
SW
D4
HSM83
G1 SW
D5
HSM83
G1 SW
D6
HSM83
G1 SW
D305
HSM83
PROTECT
D306
HSM83
PROTECT
PROTECT
A (VIDEO)
B-998369<...>-A..



	2	0.5	Q2 B C
	3	3.1	
	4	4	
	8	3.4	Q5 B C E
	10	4	
	12	0.5	
	14	1.9	
	15	2	
	16	2.7	

A BOARD WAVEFORMS

① 0.7 Vp-p (H)	② 1.0 Vp-
④ 0.7 Vp-p (H)	⑤ 1.0 Vp-
⑦ 0.55 Vp-p (H)	⑧ 0.45 Vp
⑩ 40 Vp-p (H)	⑪ 40 Vp-
⑬ 40 Vp-p (H)	⑭ 40 Vp-

	2	6.9	Q2	B	*	Q203	B	4.4			
	3	3.1		C	*		E	3.7			
	4	4	Q5	B	*	Q204	B	*			
	8	3.4		C	*		E	*			
	10	4		E	*						
	12	0.5									
	14	1.9									
	15	2									
	16	2.7									

A BOARD WAVEFORMS

① 0.7 Vp-p (H)	② 1.0 Vp-p (H)	③ 0.7 Vp-p (H)
④ 0.7 Vp-p (H)	⑤ 1.0 Vp-p (H)	⑥ 0.7 Vp-p (H)
⑦ 0.55 Vp-p (H)	⑧ 0.45 Vp-p (H)	⑨ 0.45 Vp-p (H)
⑩ 40 Vp-p (H)	⑪ 40 Vp-p (H)	⑫ 38 Vp-p (H)
⑬ 40 Vp-p (H)	⑭ 40 Vp-p (H)	⑮ 38 Vp-p (H)

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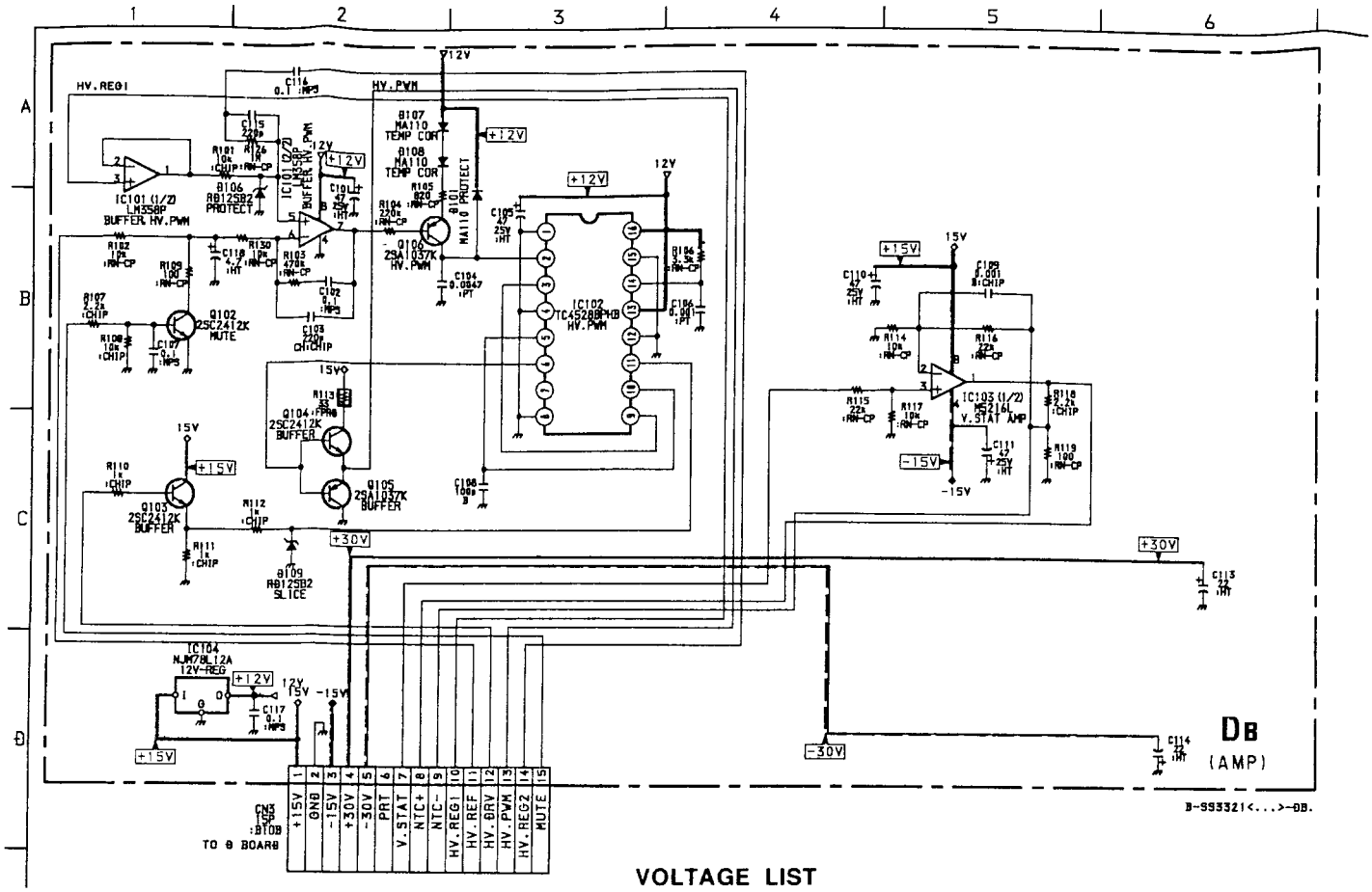
(4) Schematic Diagrams of DB, G, H and M Boards

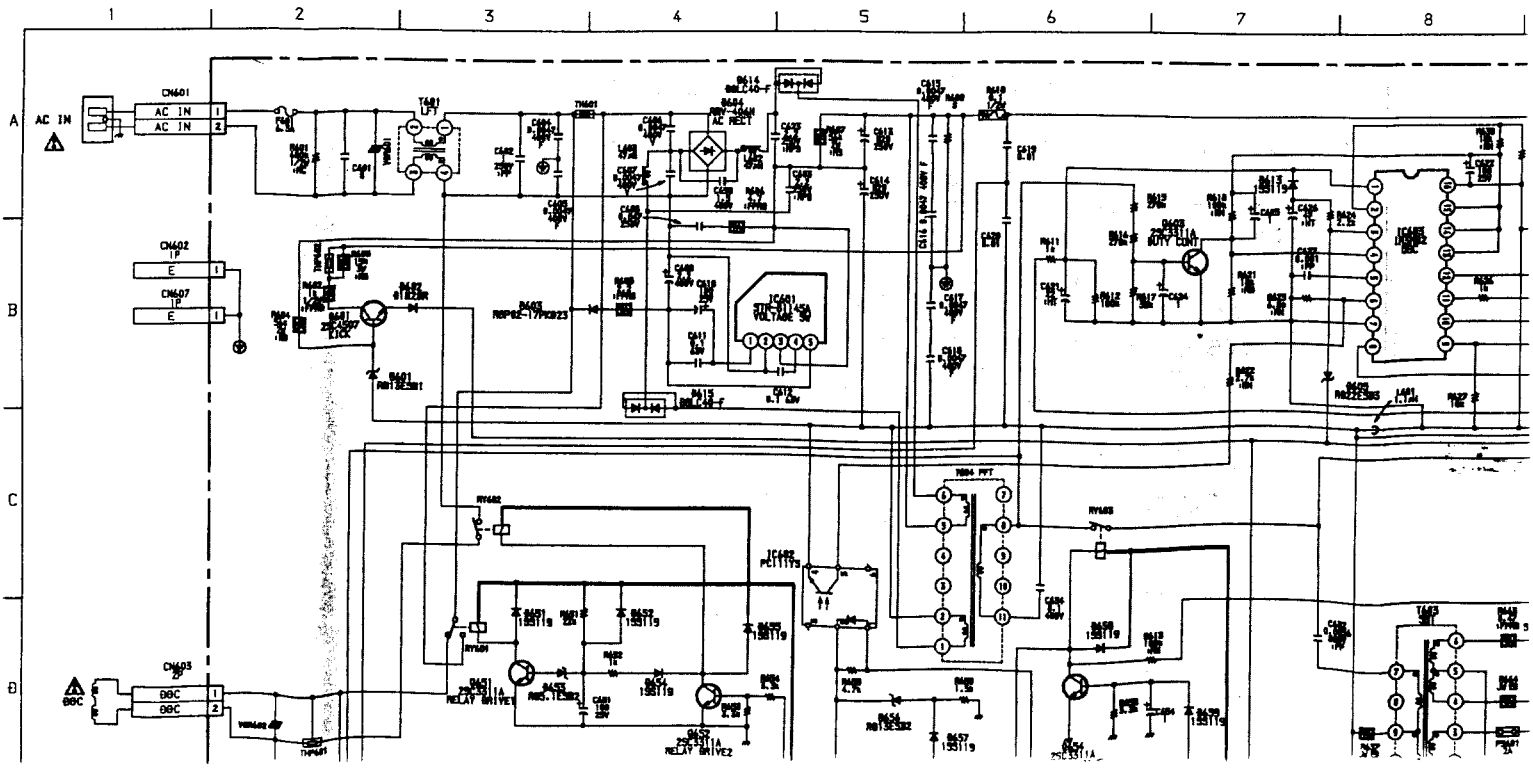


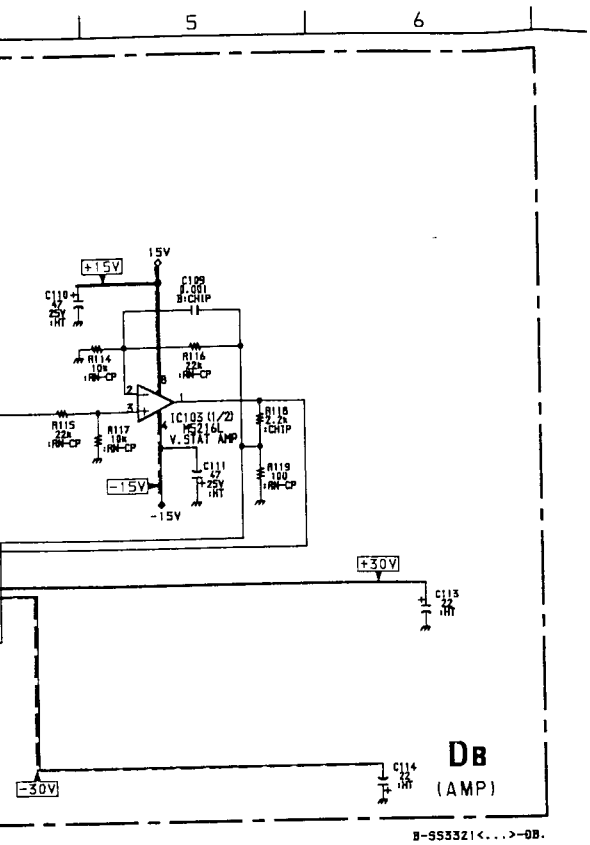
B-993321<...>-DB.

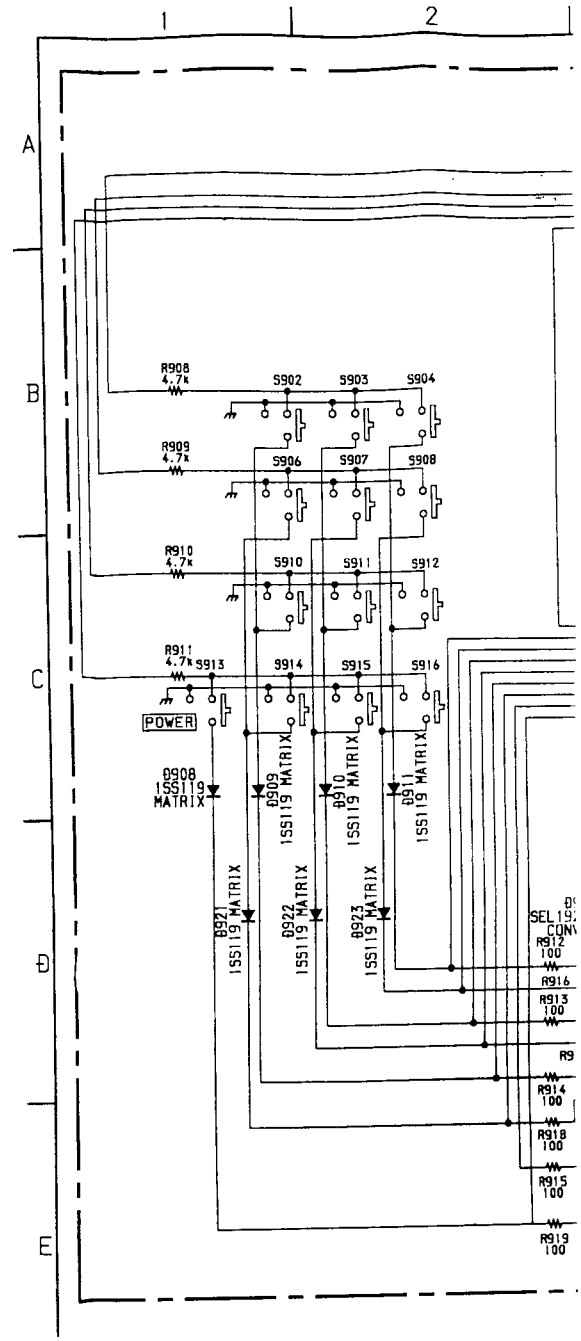
VOLTAGE LIST

● DB BOARD

Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]
IC101	1	9.3	IC103	1	1.8	Q104	B	10.3
	2	9.3		2	0.2		C	15.1
	3	9.3		3	0.2		E	19.9
	5	9.3		5	-4.3	Q105	B	10.3
	6	9.3		6	0.2		E	19.9
	7	9.7		7	14.3	Q106	B	10.3
IC102	2	6.1	Q102	B	0		C	6.1
	3	11.6		C	9.3		E	10.9
	5	1.0	Q103	B	9.5			
	6	10.3		E	9.0			
	9	11.6						
	10	1.0						
	11	8.9						
	14	11.4						

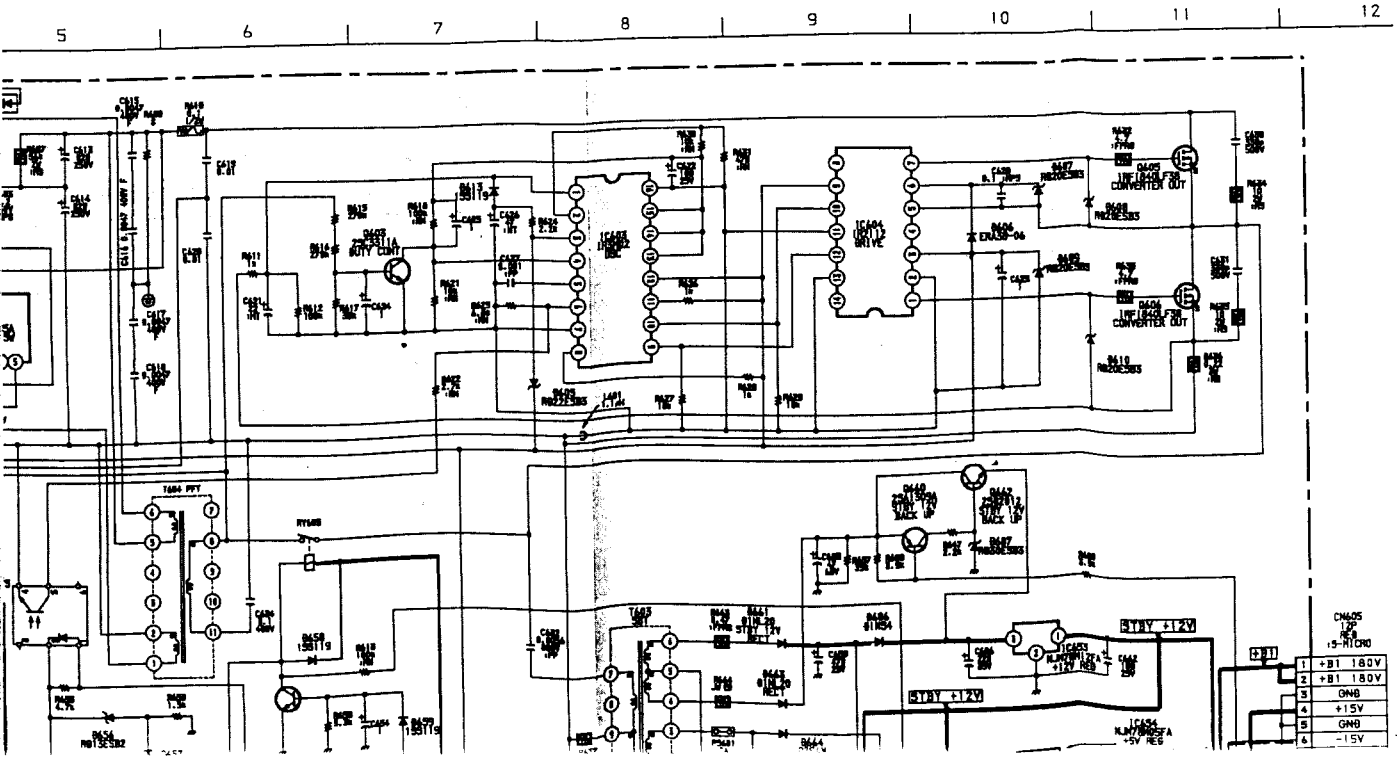


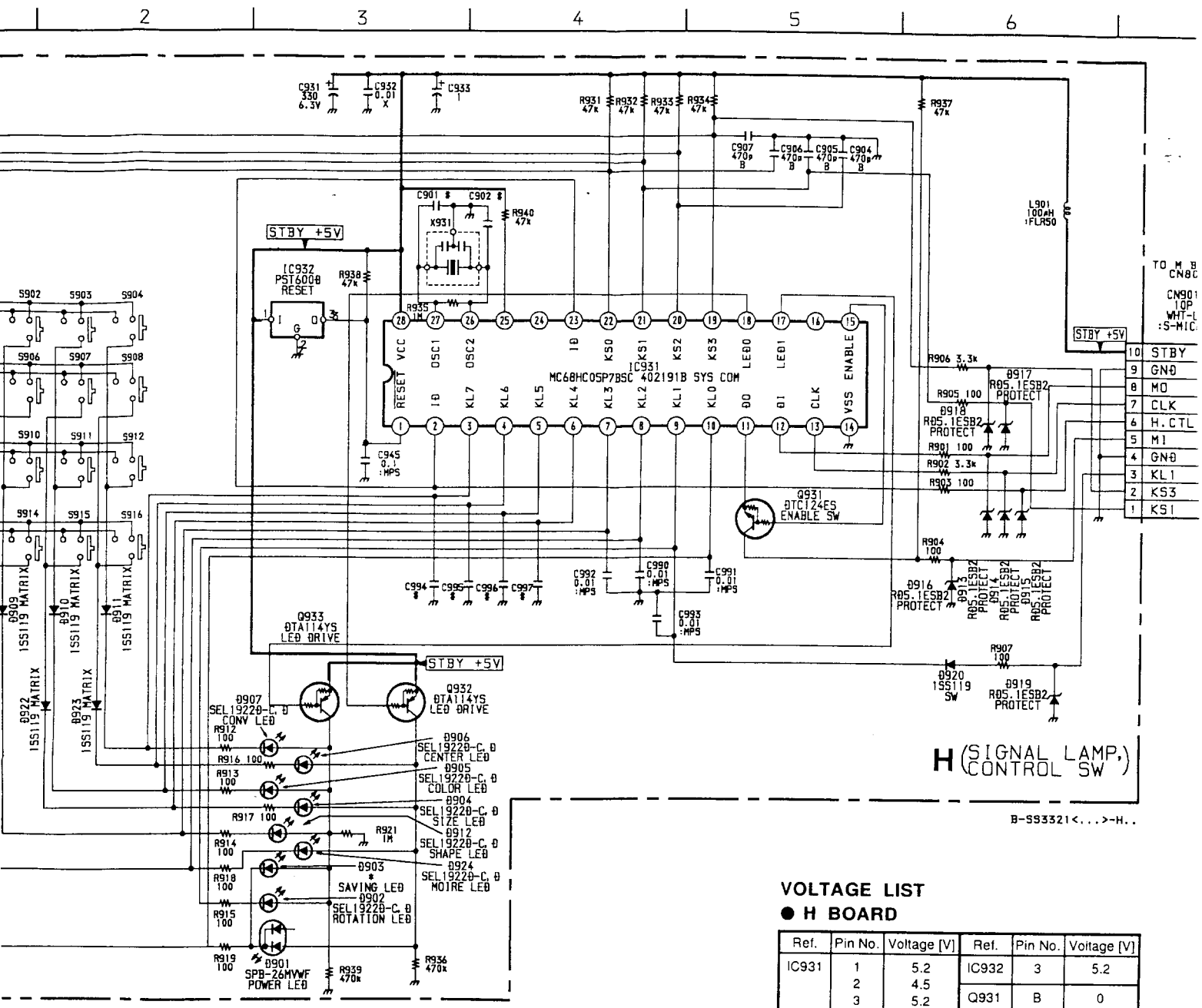




ST
D

oltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]
9.3	IC103	1	1.8	Q104	B	10.3
9.3		2	0.2		C	15.1
9.3		3	0.2		E	19.9
9.3		5	−4.3	Q105	B	10.3
9.3		6	0.2		E	19.9
9.7		7	14.3	Q106	B	10.3
6.1	Q102	B	0		C	6.1
11.6		C	9.3		E	10.9
1.0	Q103	B	9.5			
10.3		E	9.0			
11.6						
1.0						
8.9						
11.4						

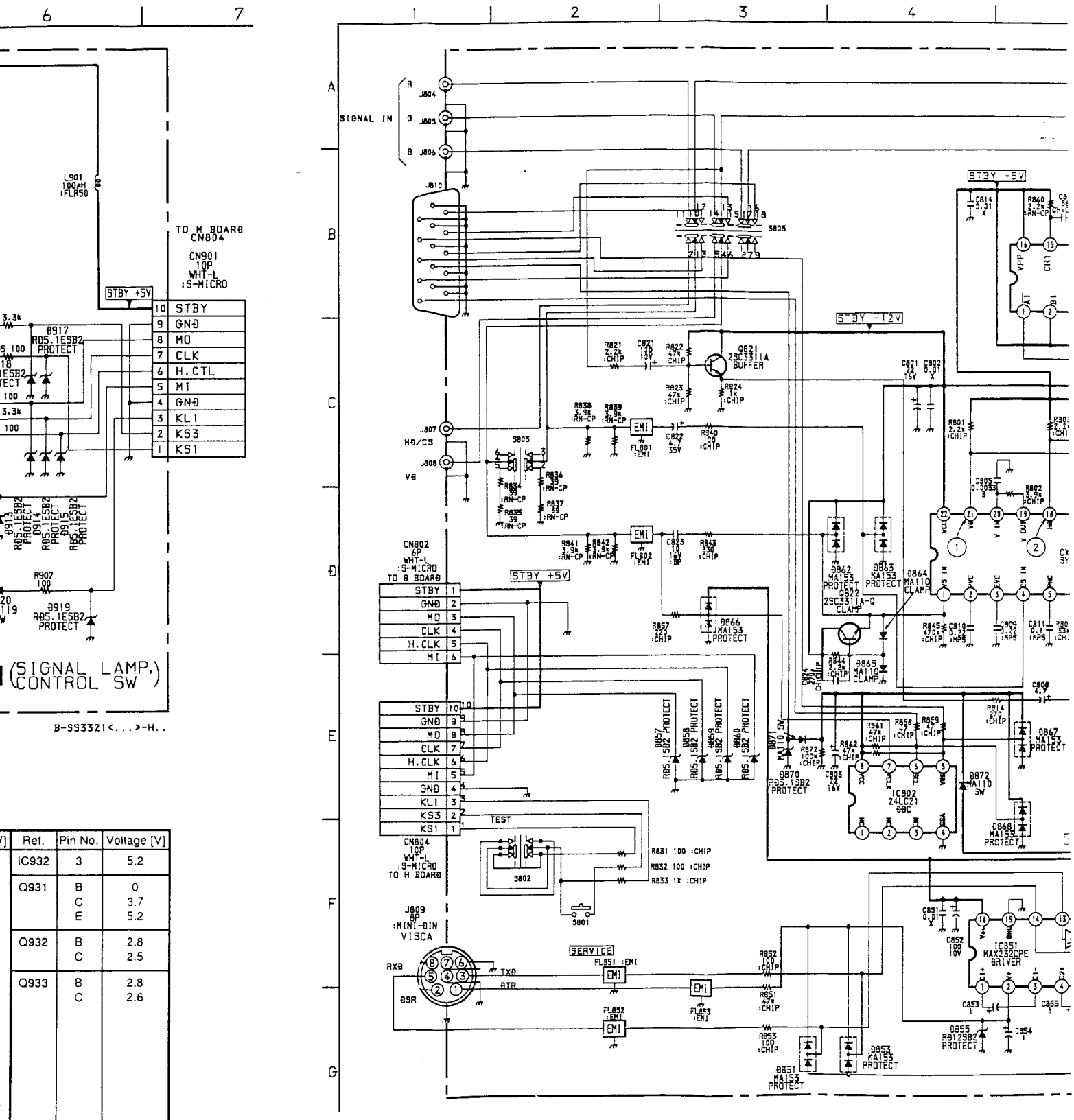




VOLTAGE LIST

● H BOARD

Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]
IC931	1	5.2	IC932	3	5.2
	2	4.5	Q931	B	0
	3	5.2		C	3.7
	4	5.2		E	5.2
	6	5.2	Q932	B	2.8
	7	5.2		C	2.5
	8	5.2	Q933	B	2.8
	9	5.2		C	2.6
	10	3.3			
	11	5.5			
	12	4.9			
	13	4.9			
	15	0			
	16	5.2			
	17	2.8			
	18	2.8			
	19	3.8			
	20	5.2			
	21	3.8			
	22	5.2			
	23	4.6			
	25	5.2			
	26	2.5			
	27	2.7			

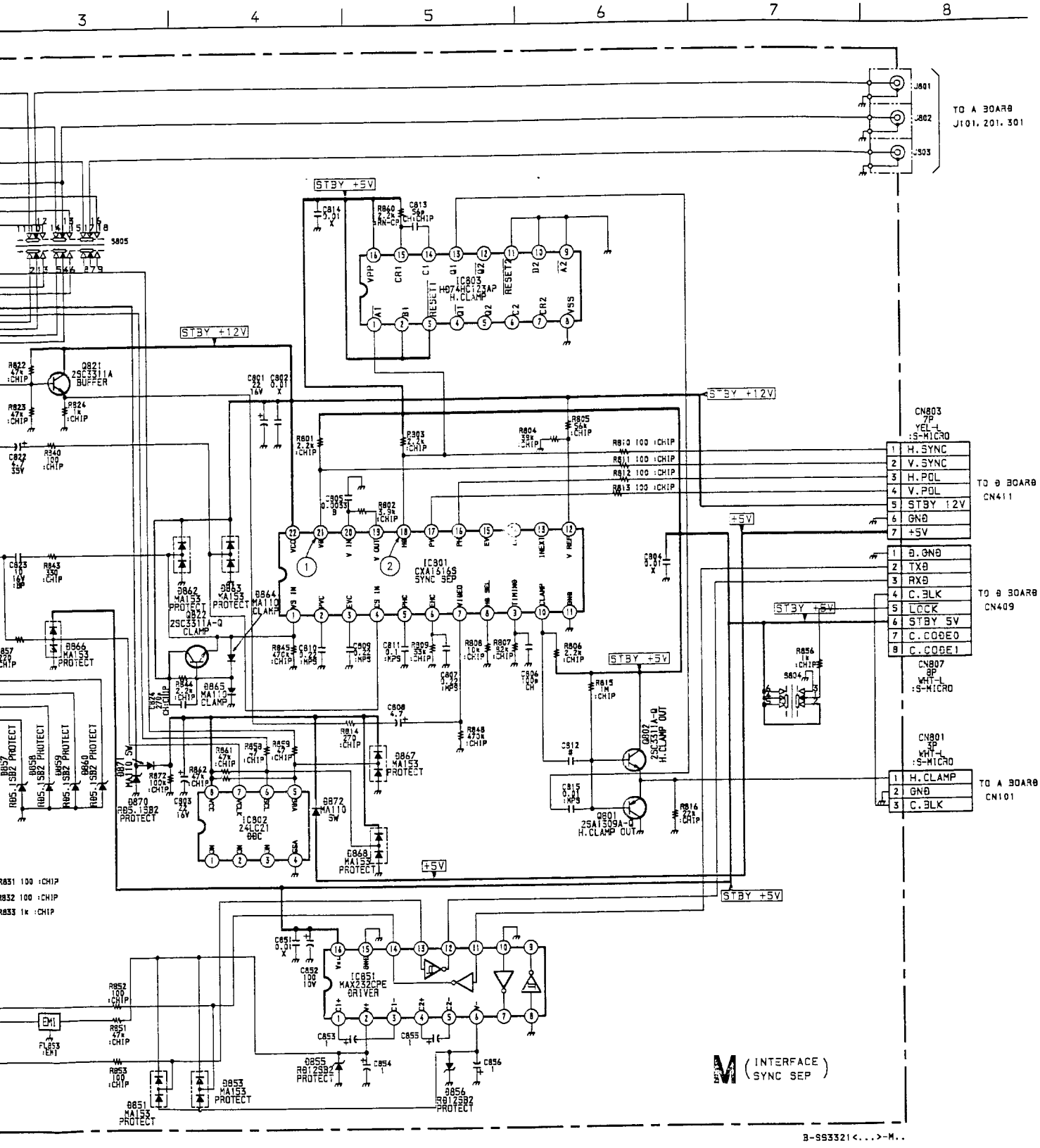


Ref.	Pin No.	Voltage [V]
IC932	3	5.2
Q931	B	0
	C	3.7
	E	5.2
Q932	B	2.8
	C	2.5
Q933	B	2.8
	C	2.6

VOLTAGE LIST

● M BOARD

Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Volta
IC801	1	0.4	IC851	1	7
	2	3.5		2	1
	3	4.4		3	2
	4	4.2		4	5
	5	3.6		5	1
	6	2.9		6	1
	7	4.7		11	5
	8	0.3		12	5
	9	10.4		13	
	10	0.3		14	1
	12	4.9			
	14	0.2	Q801	B	0
	16	0.2		E	0
	17	0.2			
	18	0.7	Q802	B	0
	19	2.7		E	0

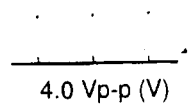
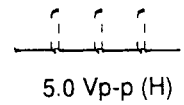


VOLTAGE LIST

● M BOARD

Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]
IC801	1	0.4	IC851	1	7.6
	2	3.5		2	10.1
	3	4.4		3	2.5
	4	4.2		4	5.3
	5	3.6		5	-4.7
	6	2.9		6	-9.8
	7	4.7		11	5.2
	8	0.3		12	5.2
	9	10.4		13	0
	10	0.3		14	-9.9
	12	4.9			
	14	0.2	Q801	B	0.9
	16	0.2		E	0.4
	17	0.2			
	18	0.7	Q802	B	0.9
				E	0.4

M BOARD WAVEFORMS

①	②
	
4.0 Vp-p (V)	5.0 Vp-p (H)

TO B BOARD

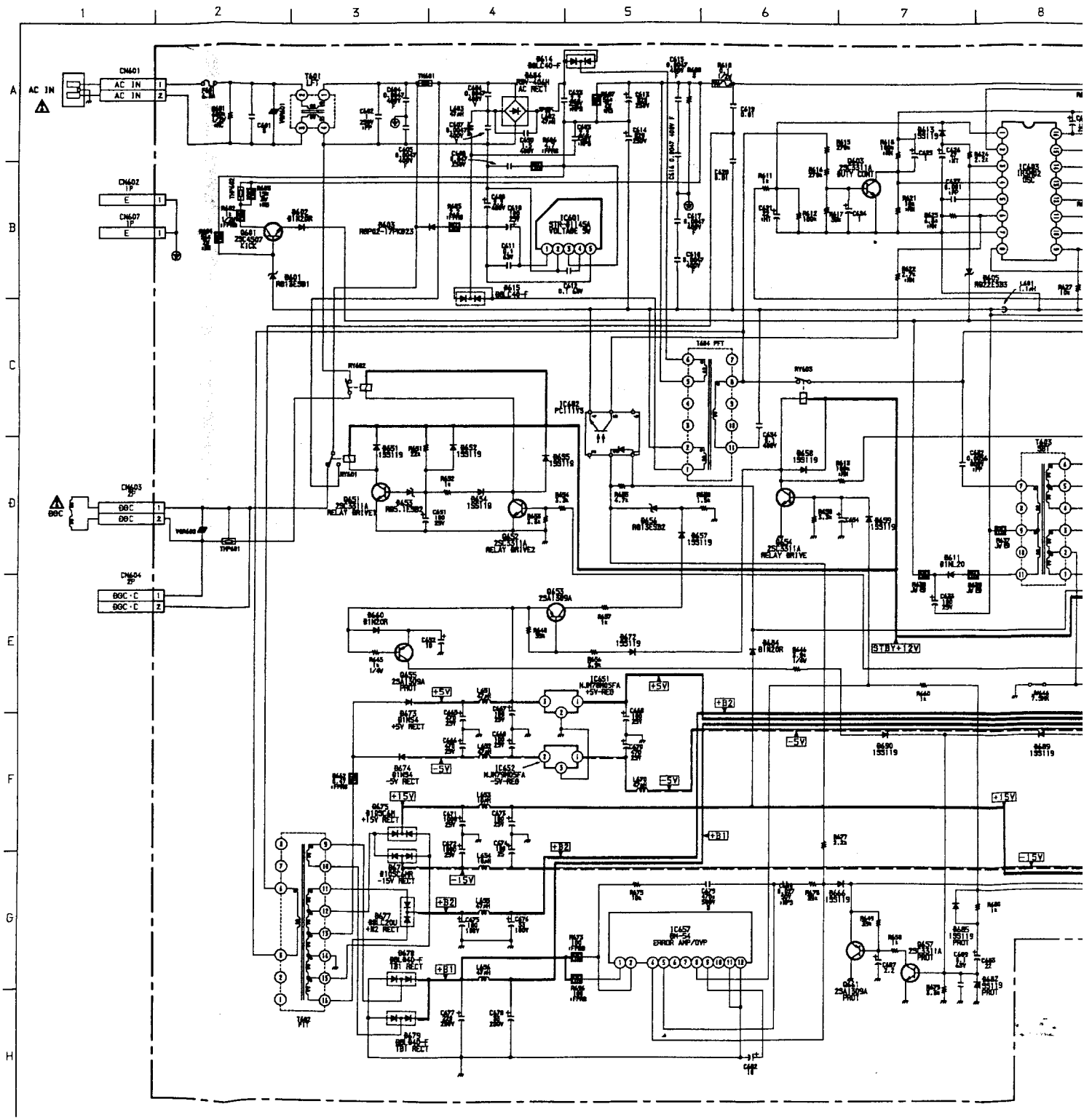
VOLTAGE LIST

● DB BOARD

Ref.	Pin No.	Voltage [V]
IC101	1	9.3
	2	9.3
	3	9.3
	5	9.3
	6	9.3
	7	9.7
IC102	2	6.1
	3	11.6
	5	1.0
	6	10.3
	9	11.6
	10	1.0
	11	8.9
	14	11.4

Ref.	Pin No.	Voltage [V]
IC103	1	1.8
	2	0.2
	3	0.2
	5	−4.3
	6	0.2
	7	14.3
Q102	B	0
	C	9.3
Q103	B	9.5
	E	9.0

Ref.	Pin No.	Voltage [V]
Q104	B	10.3
	C	15.1
	E	19.9
Q105	B	10.3
	E	19.9
Q106	B	10.3
	C	6.1
	E	10.9



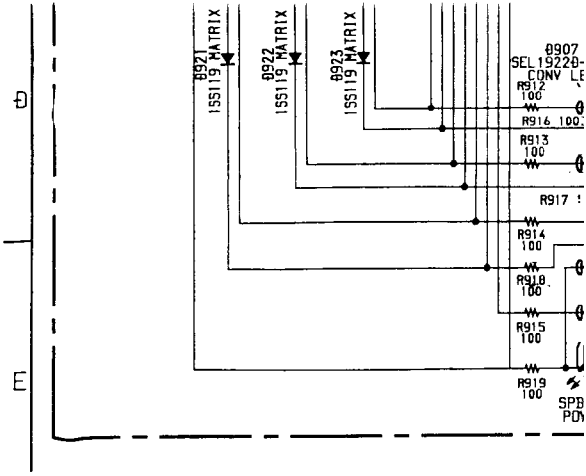
Schematic diagram

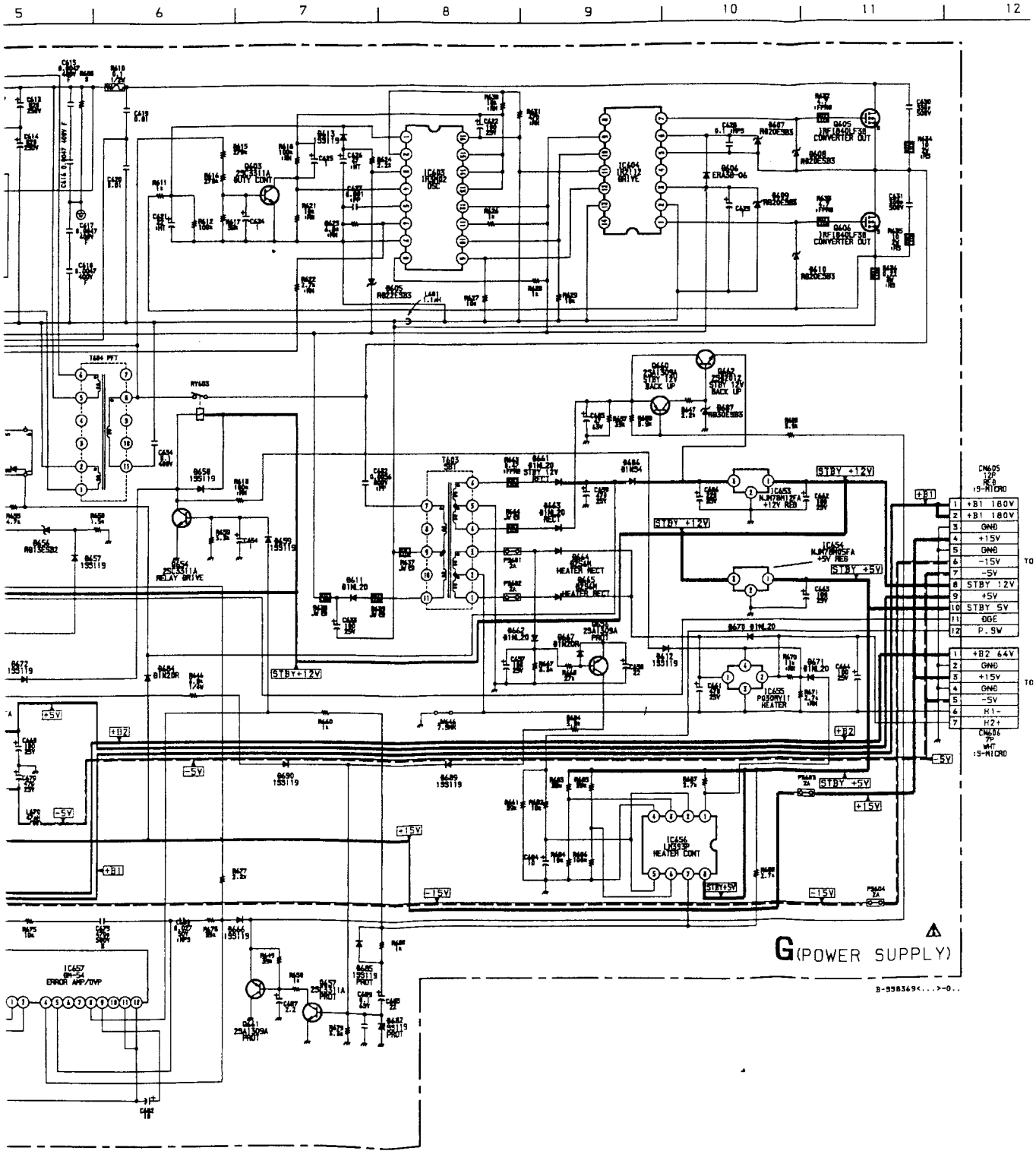
← A board

Schematic diagrams

DB G H M boards →

ge [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]
3	IC103	1	1.8	Q104	B	10.3
3		2	0.2		C	15.1
3		3	0.2		E	19.9
3		5	–4.3	Q105	B	10.3
3		6	0.2		E	19.9
7		7	14.3			
1	Q102	B	0	Q106	B	10.3
.6		C	9.3		C	6.1
0	Q103	B	9.5		E	10.9
.3		E	9.0			
.6						
0						
9						
.4						



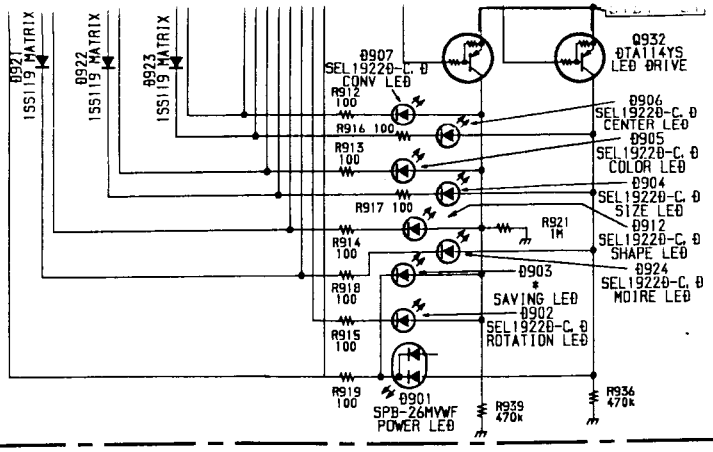


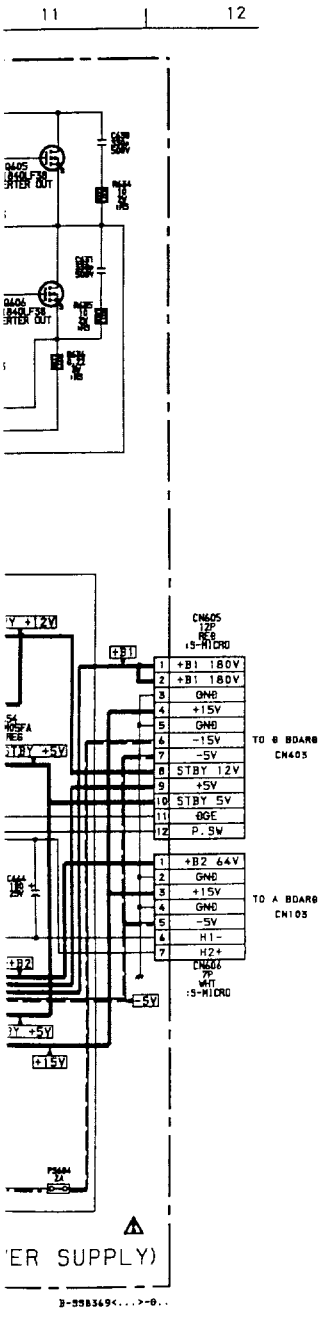
VOLTA
● G

Ref.
IC601
IC602
IC603

Schematic diagrams

DB G H M boards ➡





VOLTAGE LIST

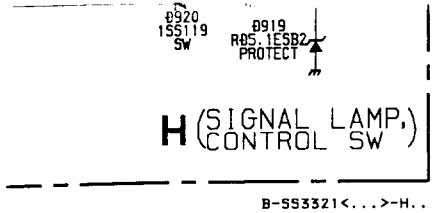
● H BOARD

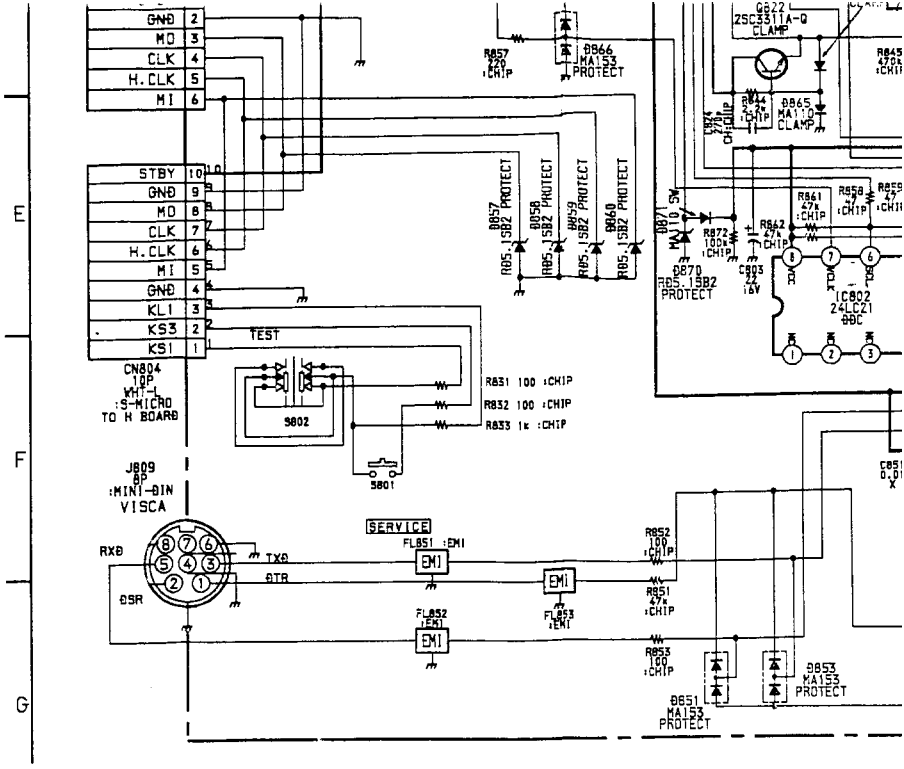
Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage
IC931	1	5.2	IC932	3	5.
	2	4.5	Q931	B	
	3	5.2		C	3.
	4	5.2		E	5.
	6	5.2	Q932	B	2.
	7	5.2		C	2.
	8	5.2	Q933	B	2.
	9	5.2		C	2.
	10	3.3			
	11	5.5			
	12	4.9			
	13	4.9			
	15	0			
	16	5.2			
	17	2.8			
	18	2.8			
	19	3.8			
	20	5.2			
	21	3.8			
	22	5.2			
	23	4.6			
	25	5.2			
	26	2.5			
	27	2.7			

VOLTAGE LIST

● G BOARD

Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]
IC601	1	9.1	IC604	1	-31.2	IC657	1	183.4	Q652	B	0
	2	120.2		2	-37.5		2	183.4		C	12.6
	3	120.0		3	-22.4		4	12.1	Q653	B	6.7
	4	119.8		5	120.0		5	2.6		C	7.4
	5	1.7		6	135.0		6	0		E	7.4
IC602	1	14.7		7	126.5		8	1.4	Q654	B	0.8
	2	13.7		9	-22.3		9	0.3		C	0.2
	4	-37.6		10	-31.7		10	0	Q655	B	7.4
	5	-34.6		11	-37.5		11	0		C	-2.9
IC603	1	-37.5		12	-31.4		12	0		E	7.1
	2	-37.4		13	-37.5	Q601	B	-24.5	Q656	B	7.8
	3	-37.5	IC651	3	7.4		C	277.0		C	-0.8
	4	-37.6	IC652	2	-7.3		E	-22.1		E	7.6
	5	-35.1	IC653	3	14.4	Q603	B	-36.8	Q657	B	0
	6	-34.2	IC655	1	8.0		C	-37.6		C	39.4
	7	-37.5		4	1.3		E	-37.4	Q660	B	39.0
	8	-22.6	IC656	1	0.2	Q605	G	126.5		C	2.3
	9	-31.4		2	5.1		D	276.0		E	39.6
	10	-31.6		3	1.1		S	119.8	Q661	B	39.4
	11	-22.9		4	0	Q606	G	-31.1		E	39.4
	12	-22.3		5	5.1		D	119.8	Q662	B	2.1
	13	-32.1		6	3.7		S	-37.5		C	39.6
	14	-32.1		7	2.5	Q651	B	0.8		E	14.4
	15	-32.1					C	0.2			
	16	-37.5									





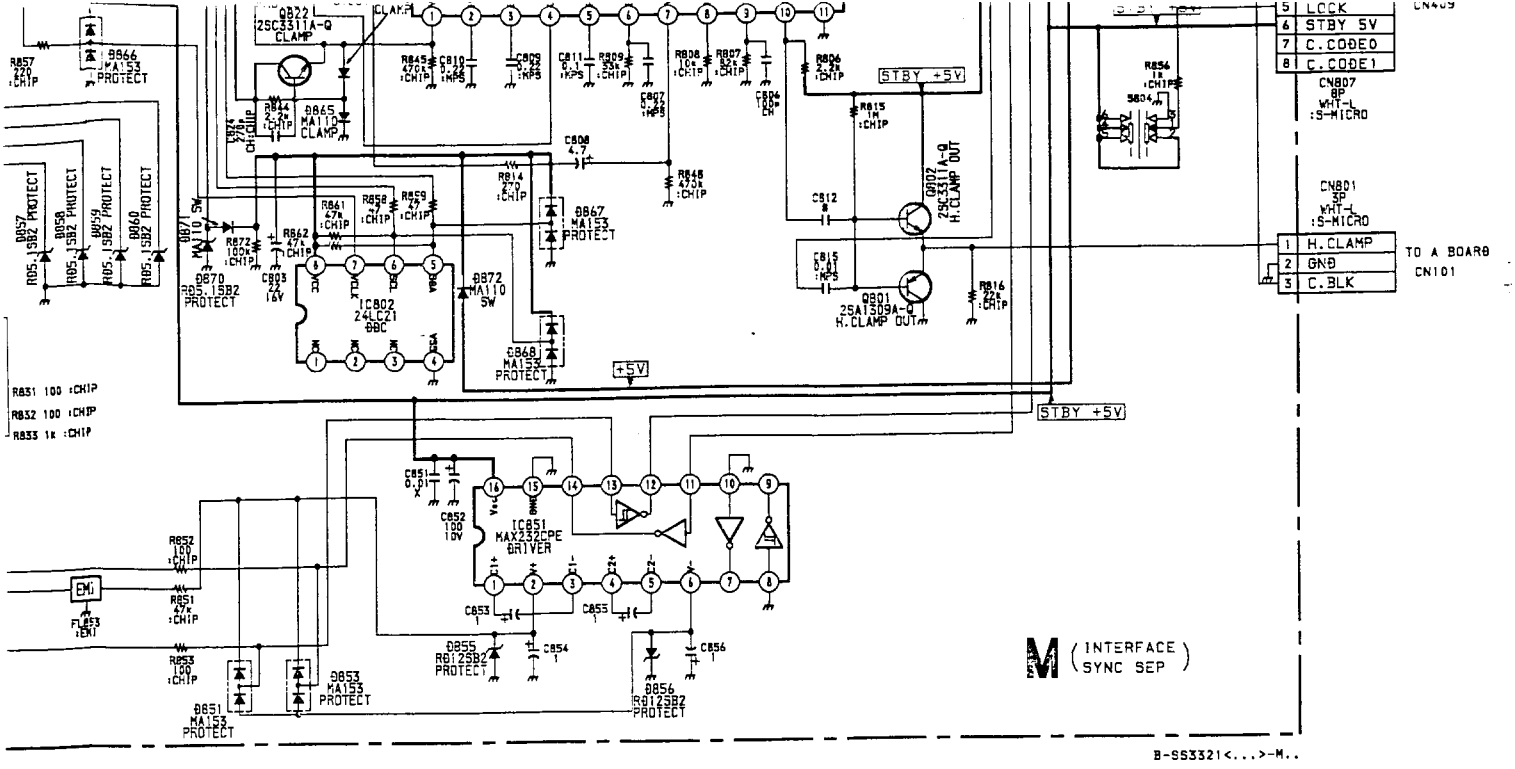
LTAGE LIST
1 BOARD

f.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]
31	1	5.2	IC932	3	5.2
	2	4.5	Q931	B	0
	3	5.2		C	3.7
	4	5.2		E	5.2
	6	5.2	Q932	B	2.8
	7	5.2		C	2.5
	8	5.2	Q933	B	2.8
	9	5.2		C	2.6
	10	3.3			
	11	5.5			
	12	4.9			
	13	4.9			
	15	0			
	16	5.2			
	17	2.8			
	18	2.8			
	19	3.8			
	20	5.2			
	21	3.8			
	22	5.2			
	23	4.6			
	25	5.2			
	26	2.5			
	27	2.7			

VOLTAGE LIST
● M BOARD

Ref.	Pin No.	Voltage [
IC801	1	0.4
	2	3.5
	3	4.4
	4	4.2
	5	3.6
	6	2.9
	7	4.7
	8	0.3
	9	10.4
	10	0.3
	12	4.9
	14	0.2
	16	0.2
	17	0.2
	18	0.7
	19	2.7
	20	2.7
	21	0.2
IC803	1	0.8
	13	0.2
	14	0
	15	5.2

in No.	Voltage [V]
B	0
C	12.6
B	6.7
C	7.4
E	7.4
B	0.8
C	0.2
B	7.4
C	−2.9
E	7.1
B	7.8
C	−0.8
E	7.6
B	0
C	39.4
B	39.0
C	2.3
E	39.6
B	39.4
E	39.4
B	2.1
C	39.6
E	14.4

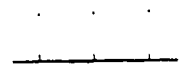
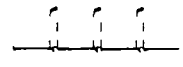


VOLTAGE LIST

● M BOARD

Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]
IC801	1	0.4	IC851	1	7.6
	2	3.5		2	10.1
	3	4.4		3	2.5
	4	4.2		4	5.3
	5	3.6		5	−4.7
	6	2.9		6	−9.8
	7	4.7		11	5.2
	8	0.3		12	5.2
	9	10.4		13	0
	10	0.3		14	−9.9
	12	4.9	Q801	B	0.9
	14	0.2		E	0.4
	16	0.2	Q802	B	0.9
	17	0.2		E	0.4
	18	0.7	Q821	B	5.5
	19	2.7		E	4.8
	20	2.7	Q822	B	0.8
	21	0.2		E	0.4
IC803	1	0.8			
	13	0.2			
	14	0			
	15	5.2			

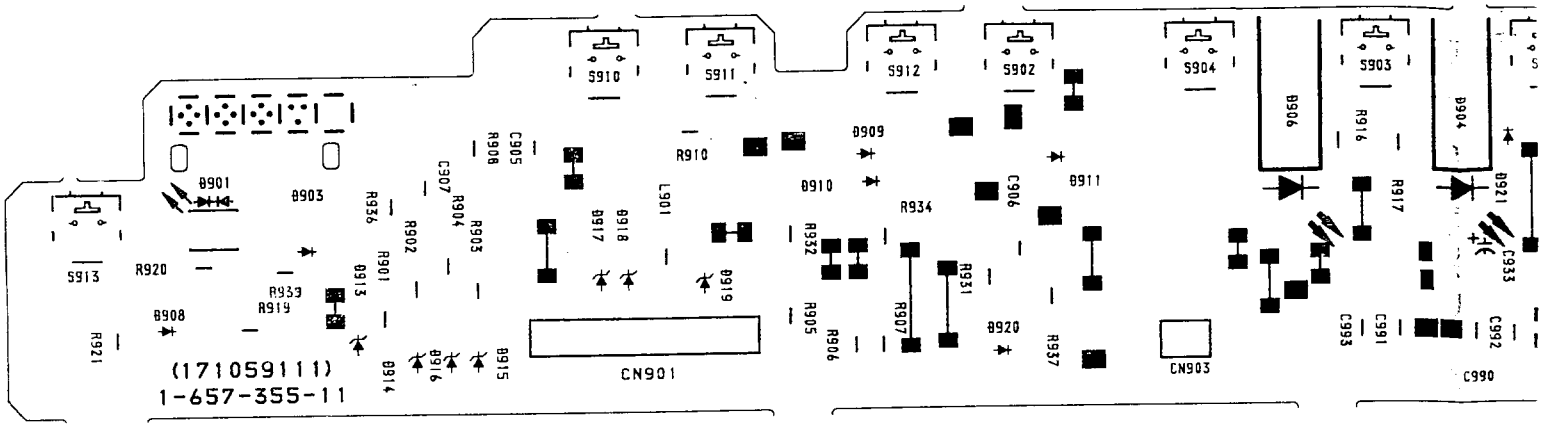
M BOARD WAVEFORMS

①	②
	
4.0 Vp-p (V)	5.0 Vp-p (H)

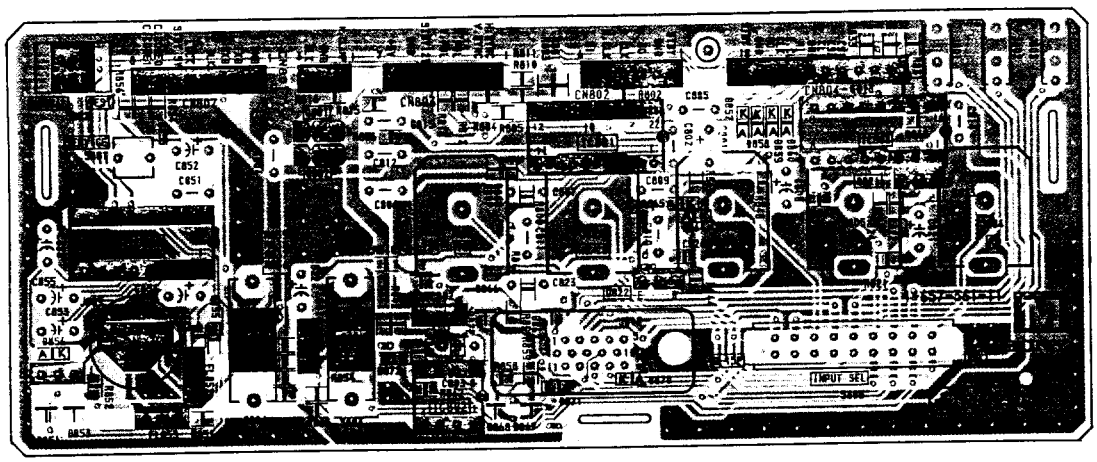
H [SIGNAL LAMP]

M [INTERFACE SYNC SEP]

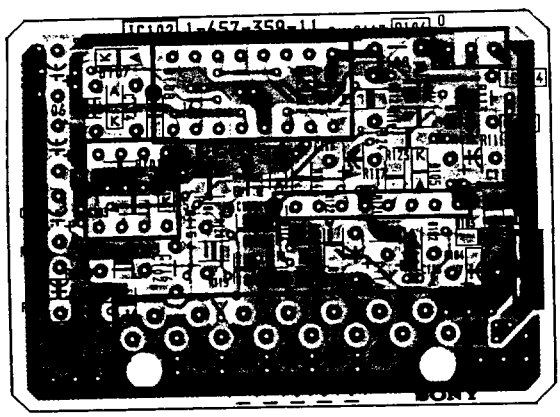
— H Board —



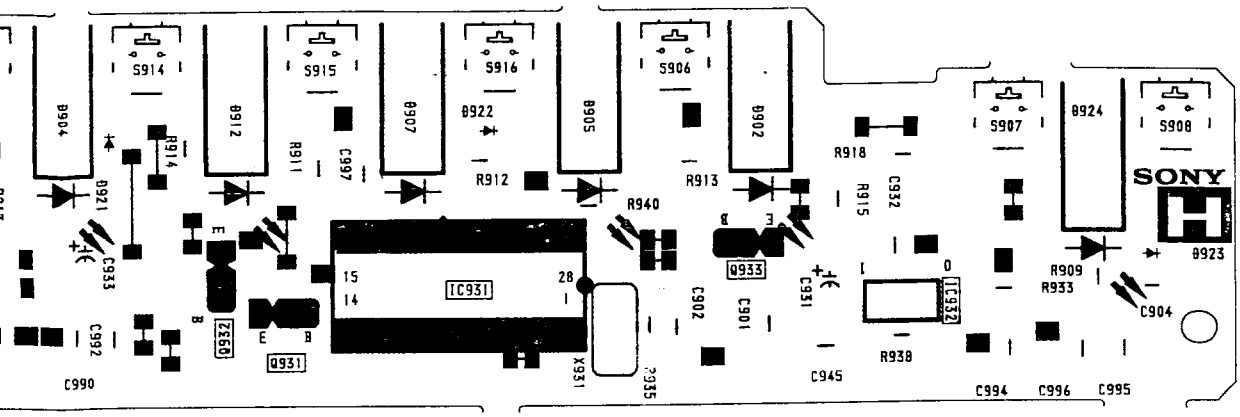
— M Board (Conductor Side) —



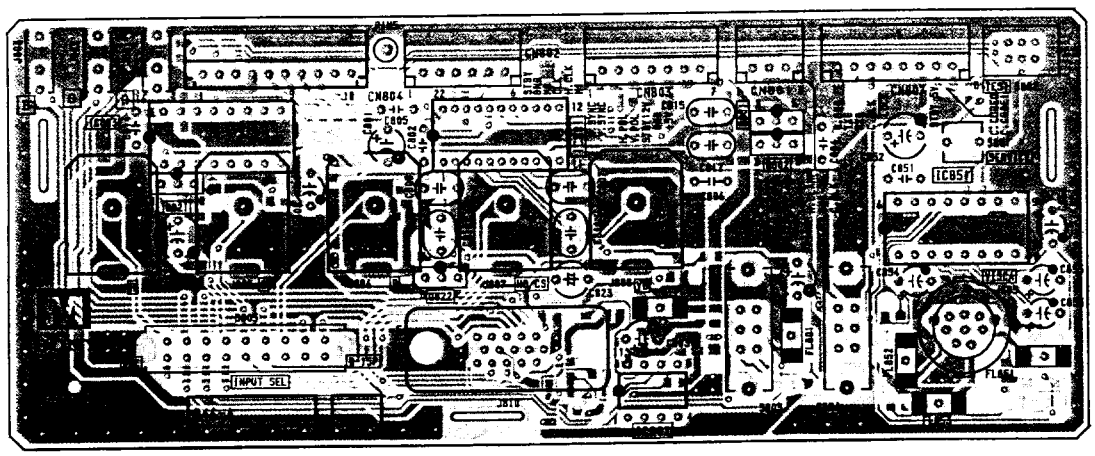
— DB Board (Conductor Side) —



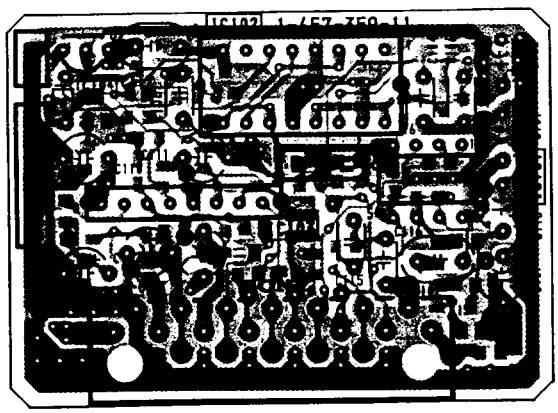
DB [AMP]

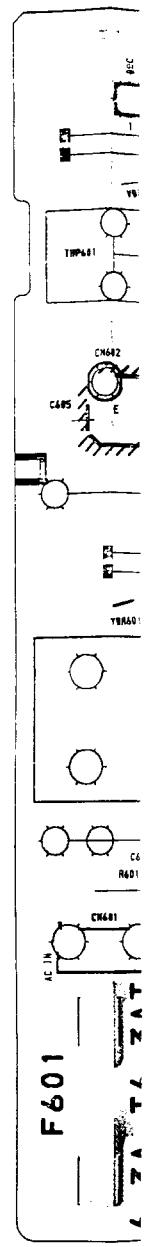


— M Board (Component Side) —



— DB Board (Component Side) —

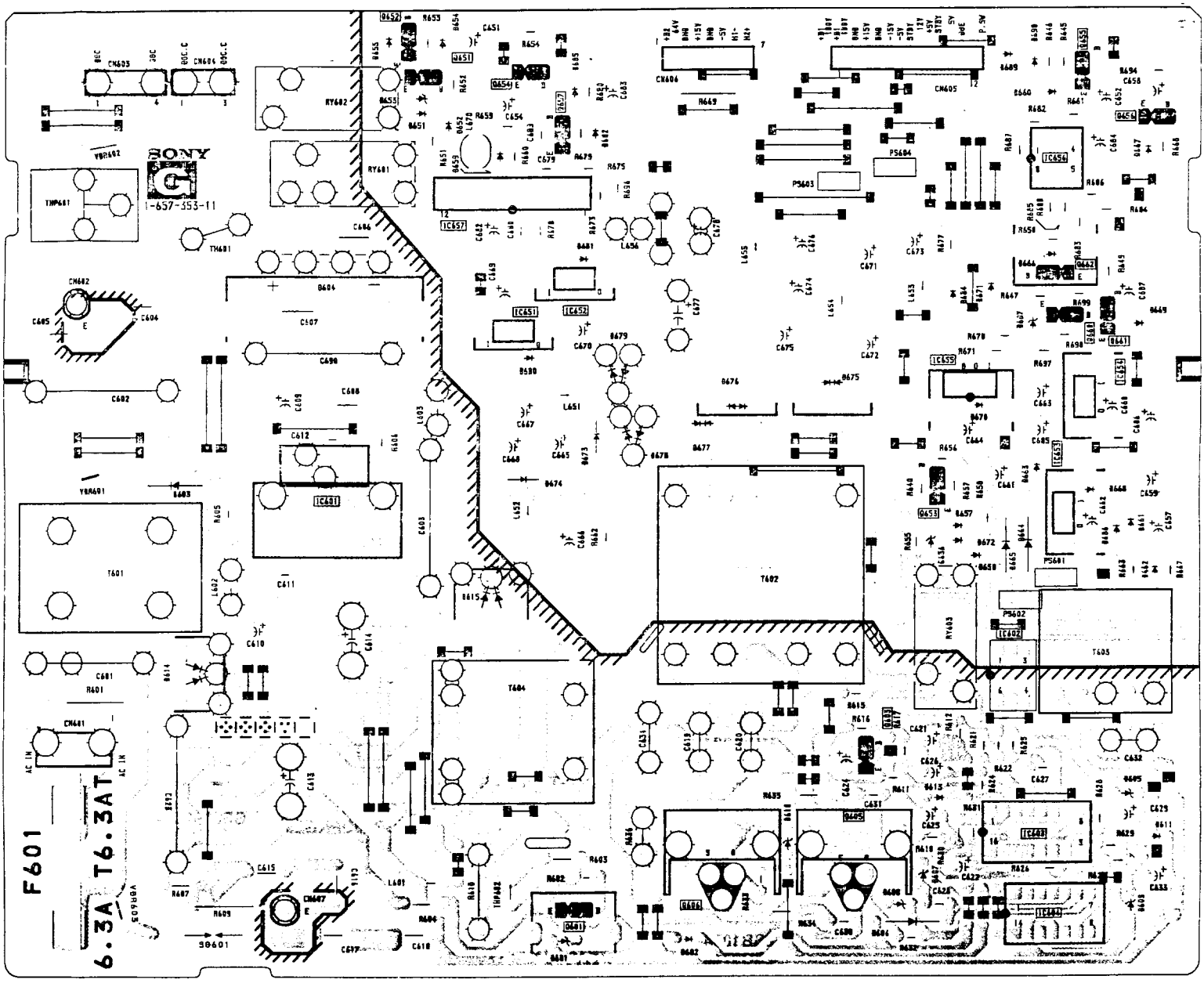




- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

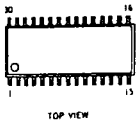
MP] G [POWER SUPPLY]

— G Board —



5-5. SEMICONDUCTORS

CXA1543M-T6



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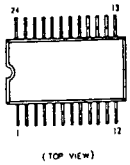

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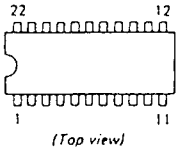

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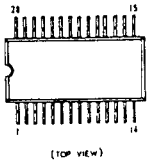

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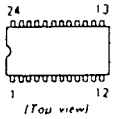

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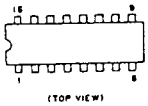

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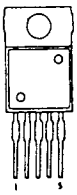

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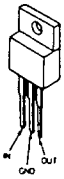
NJM78M09FA
NJM78M12FA
TA7812S



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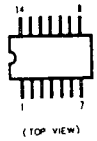

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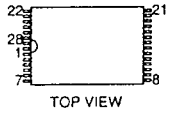

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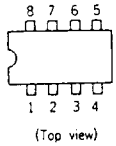

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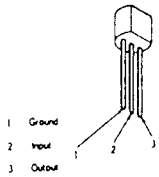

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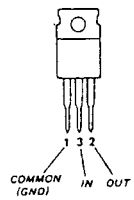

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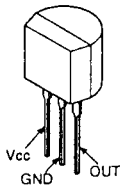

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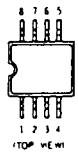

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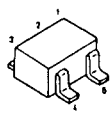

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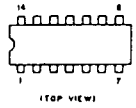

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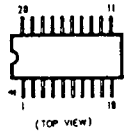

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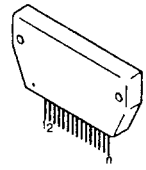

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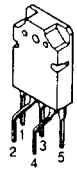

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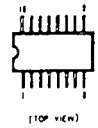

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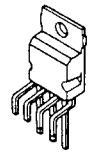

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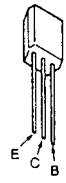

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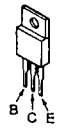

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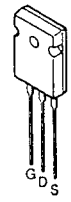

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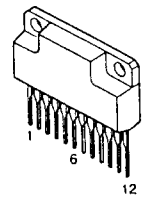

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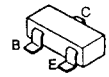

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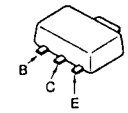

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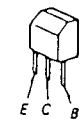

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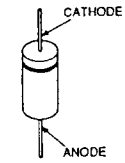

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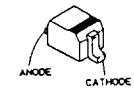

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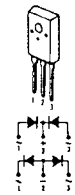
D8LC40

D10SC6MR
D8LC20U



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RD13ES-B1
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RD15ES-B2
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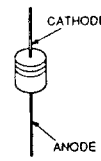
RD5.1SB1-T1



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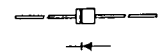

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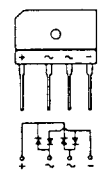

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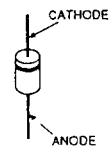

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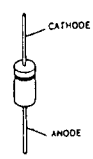

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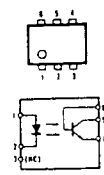

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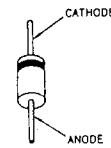

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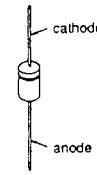
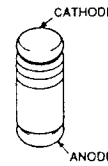
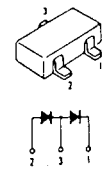


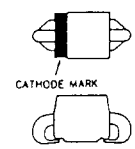
RLZ30D-TE11



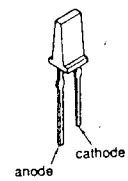
SC015-2



1SS226



SEL1922D-C



SECTION 6
EXPLODED VIEWS

-6433

- Items with no part number and no description are not stocked because thy are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

NOTE:

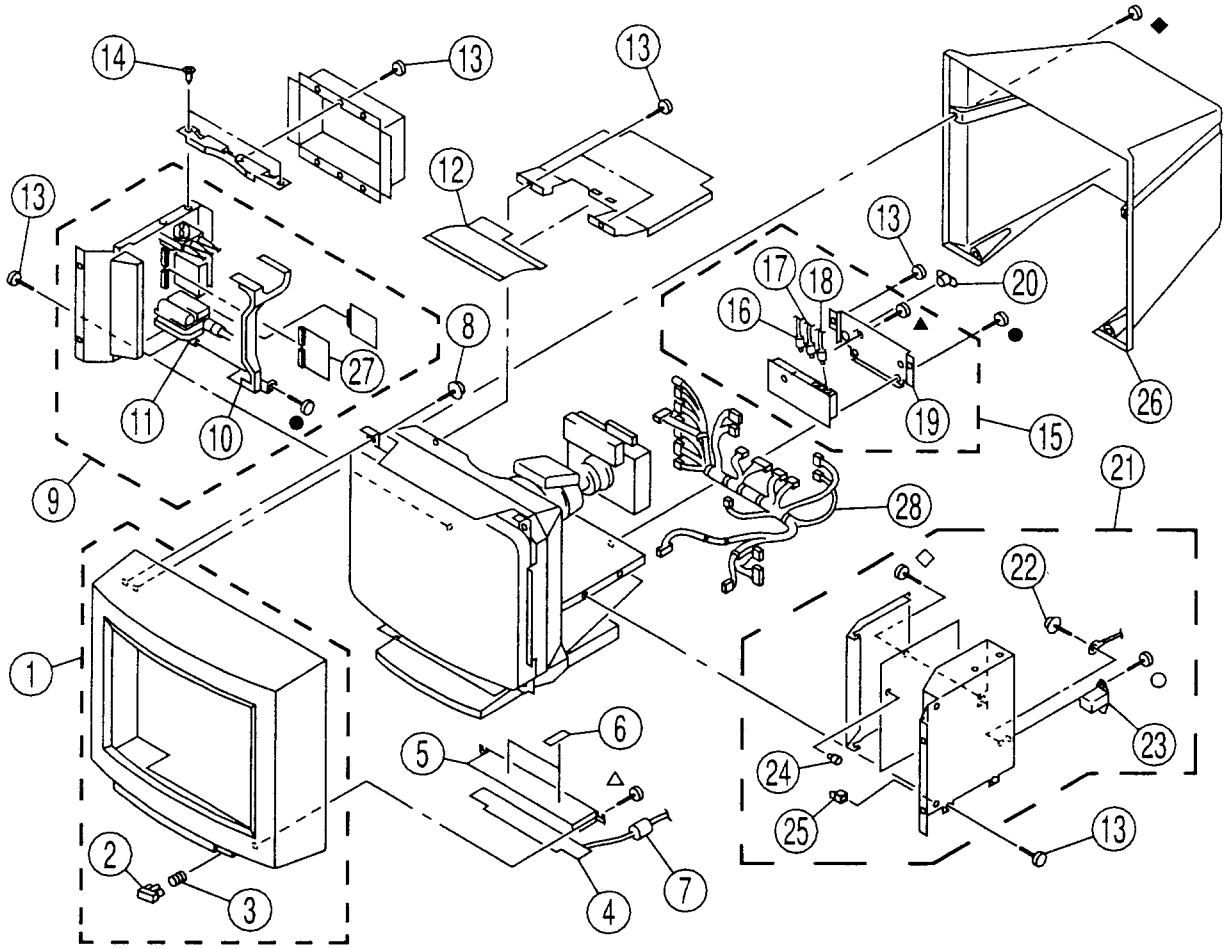
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

-6394

Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

6-1. CHASSIS

●	7-685-648-79	+BVTP 3X12	○	7-685-246-14	+KPT 3X8
◆	7-685-663-14	+BVTP 4X16	◇	7-682-560-04	+–BVTP M4X6
▲	7-682-548-04	+–BVTP M3X8	△	7-685-161-01	+P 4X12



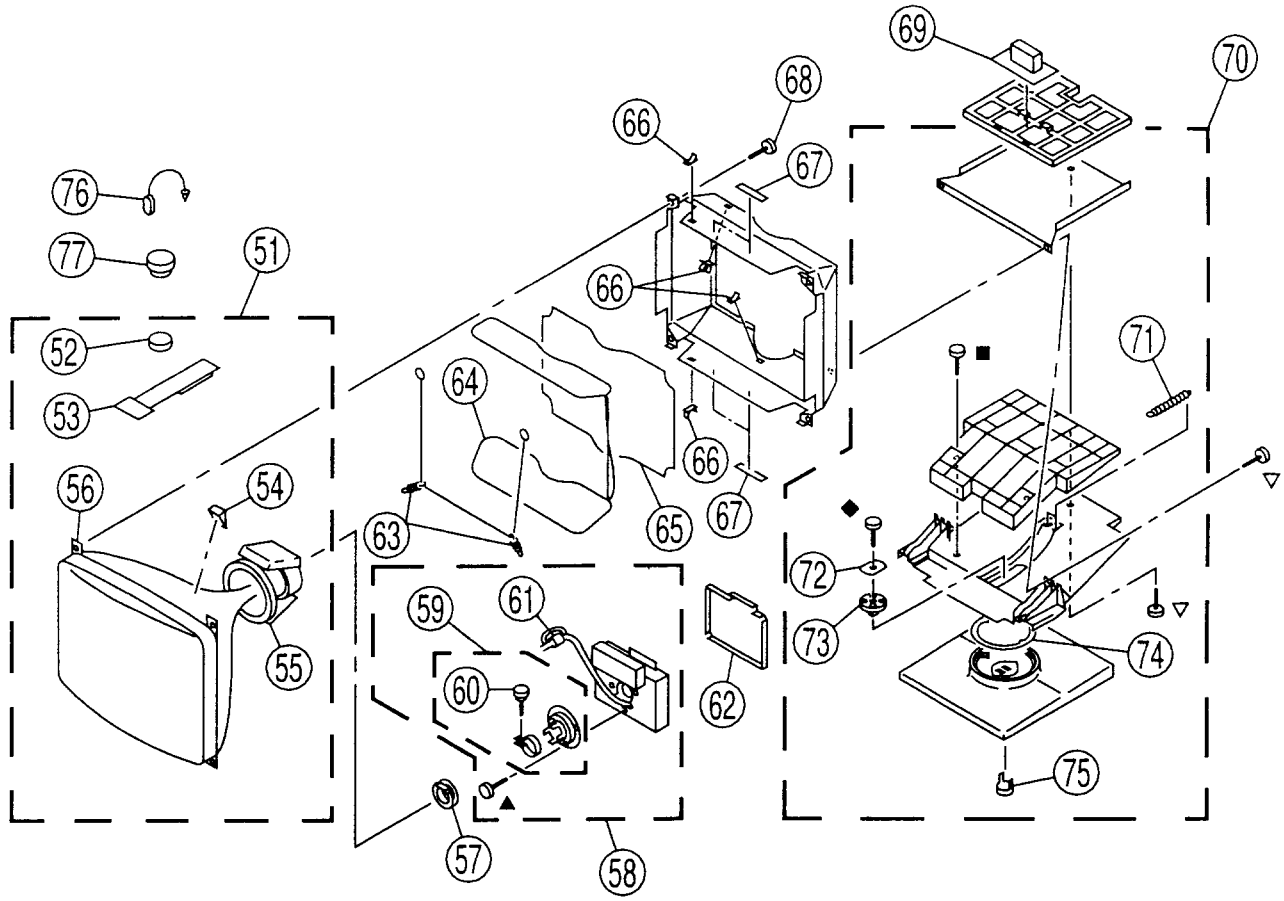
REF.NO.	PART NO.	DESCRIPTION	REMARK
1	X-4032-773-1	BEZEL ASSY 2, 3	
2	4-041-622-61	POWER, BUTTON	
3	3-571-801-01	SPRING, COMPRESSION	
4	8-933-123-00	H BOARD	
5	*4-049-207-01	BOX, CONTROL	
6	*9-911-844-99	CUSHION	
7	1-543-798-11	FILTER, CLAMP (FERRITE CORE)	
8	4-365-808-01	SCREW (5), TAPPING	
9	8-933-120-00	DEFLECTION MCB ASSY (D BOARD)	10
10	4-041-043-05	HOLDER, HV CABLE	
11	⚠1-453-154-22	TRANSFORMER ASSY, FLYBACK	
12	*4-049-742-01	COVER, ANODE CAP	
13	4-381-962-11	SCREW (M4X8), TAPPING, (+–) (BV)	
14	4-040-985-01	RIVET, PUSH	
15	A-1429-504-A	PANEL ASSY, CONNECTOR	16-19
16	⚠*1-575-135-61	CABLE, COAXIAL (R)	
17	⚠*1-575-135-51	CABLE, COAXIAL (G)	
18	⚠*1-575-135-41	CABLE, COAXIAL (B)	
19	X-4032-777-1	PANEL ASSY, CONNECTOR	
20	4-038-522-01	CAP (VISCA)	
21	⚠8-933-122-00	POWER BLOCK ASSY	22-25
22	4-389-025-01	SCREW (M4X8) (EXT TOOTH WASHER)	
23	⚠1-540-157-11	INLET, AC (3P WITH NOISE FILTER)	
24	*4-386-173-01	SPACER	
25	*3-696-440-11	HOLDER (B), PC BOARD	
26	X-4032-772-1	CABINET ASSY	
27	8-933-121-00	DA Mount	
28	1-900-211-98	Main Harness	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

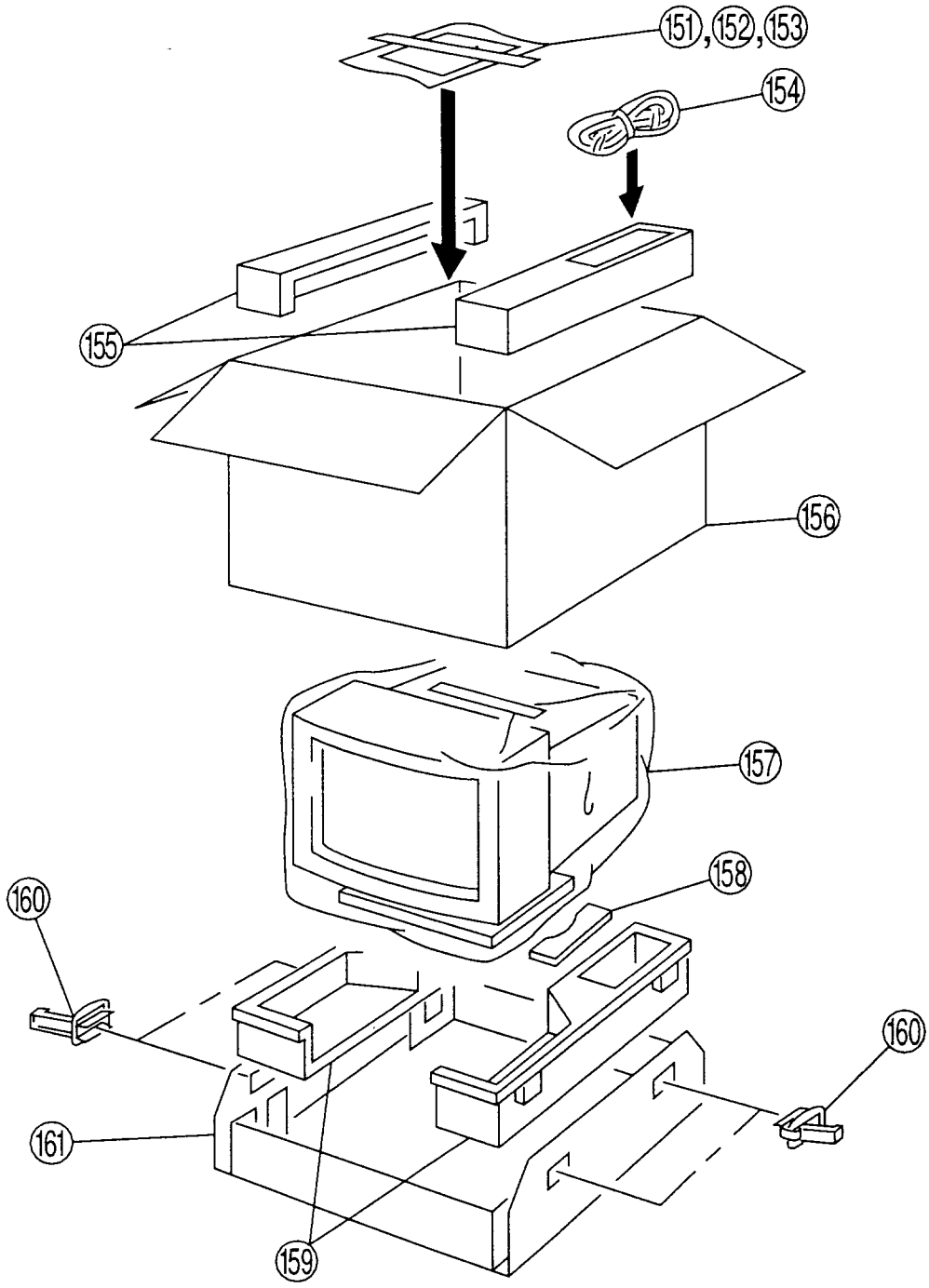
6-2. PICTURE TUBE

▲ 7-682-548-04 +–BVTP M3X8
■ 7-685-663-79 +BVTP 4X16
▽ 7-682-563-04 +–BVTP M4X12
◆ 7-685-663-14 +BVTP 4X16



REF.NO.	PART NO.	DESCRIPTION	REMARK
51	A-1020-756-A	CRT COMPLETE ASSY	52-56
52	1-452-032-00	MAGNET, DISC	
54	4-040-897-01	SPACER, DY	
55	⚠8-451-465-11	DEFLECTION YOKE Y20SHLM	
56	⚠8-736-369-90	PICTURE TUBE 20SH8 (SD-231)	
57	1-452-729-11	NECK ASSEMBLY (NA3011)	
58	8-933-119-00	A BLOCK ASSY	59-61
58	X-403-058-41	PERMALLOY ASSY, CORRECTION	60
59	X-4029-794-1	RETAINER ASSY, VIDEO	
60	4-041-627-01	SCREW (M4X20), HEXAGON HEAD	
61	1-543-798-11	FILTER, CLAMP (FERRITE CORE)	
62	*4-041-027-01	COVER, VIDEO SHIELD	
63	4-369-318-00	SPRING, TENSION	
64	1-411-471-11	COIL, DEMAGNETIZATION	
65	1-411-472-11	COIL, LANDING CORRECTION	
66	*4-395-824-01	HOLDER, DEGAUSSING COIL	
67	*9-911-844-99	CUSHION	
68	4-381-962-11	SCREW (M4X8), TAPPING, (+–) (BV)	
69	8-933-124-00	CONVERGENCE ADJ MCB ASSY (L BOARD)	
70	X-4032-774-1	STAND (B) ASSY	71-75
71	4-042-282-01	SPRING, TENSION	
72	*4-043-646-01	HOLDER, STAND	
73	4-041-623-01	STOPPER (A)	
74	*4-041-625-01	RING, TILT SWIVEL	
75	4-041-621-01	STOPPER (B)	
76	4-308-870-00	CLIP, LEAD WIRE	
77	1-452-094-00	MAGNET ROTA TABLE DISK; 15MMØ	

6-3. PACKING MATERIALS



REF.NO.	PART NO.	DESCRIPTION	REMARK
151	*1-543-830-11	CLAMP, SLEEVE FERRITE	
152	1-775-508-11	CABLE ASSY (15P DSUB CONNECTOR)	
153	3-800-117-11	MANUAL, INSTRUCTION	
154	⚠1-765-581-11	CORD SET, POWER SUPPLY 10A/250V	
155	*4-041-498-01	CUSHION (UPPER) (ASSY)	
156	*4-049-760-01	INDIVIDUAL CARTON	
157	*4-368-079-01	BAG, POLYETHYLENE	
158	*4-041-505-01	PAD	
159	*4-041-499-01	CUSHION (LOWER) (ASSY)	
160	*4-396-077-01	JOINT	
161	*4-038-264-01	TRAY	

SECTION 7
ELECTRICAL PARTS LIST

A

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

The components identified by ⊠ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS

- All resistors are in ohms
- F : nonflammable
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

VIDEO AMP, MCB ASSY (A BOARD)
****

(BOARD PART NO. 1-657-354-11)

1-543-298-11 BEAD, FERRITE
4-382-854-11 SCREW (M3X10), P, SW (+)

CAPACITOR

REF.NO.	PART NO.	DESCRIPTION			REMARK
C1	1-162-114-00	CERAMIC	0.0047MF	2K	
C3	1-107-939-11	ELECT	1MF	20%	160V
C4	1-107-939-11	ELECT	1MF	20%	160V
C5	1-107-939-11	ELECT	1MF	20%	160V
C6	1-107-925-11	ELECT	1MF	20%	100V
C7	1-107-925-11	ELECT	1MF	20%	100V
C8	1-107-925-11	ELECT	1MF	20%	100V
C9	1-162-114-00	CERAMIC	0.0047MF	2KV	
C10	1-102-989-00	CERAMIC	68PF	5%	500V
C11	1-162-114-00	CERAMIC	0.0047MF	2KV	
C12	1-162-114-00	CERAMIC	0.0047MF	2KV	
C13	1-107-929-11	ELECT	10MF	20%	50V
C14	1-107-929-11	ELECT	10MF	20%	50V
C15	1-107-929-11	ELECT	10MF	20%	50V
C16	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C17	1-107-929-11	ELECT	10MF	20%	50V
C18	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C19	1-102-989-00	CERAMIC	68PF	5%	500V
C20	1-102-989-00	CERAMIC	68PF	5%	500V
C21	1-107-943-11	ELECT	10MF	20%	160V
C22	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C23	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C24	1-107-929-11	ELECT	10MF	20%	50V
C26	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C27	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C28	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C30	1-102-244-00	CERAMIC	220PF	10%	500V
C32	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C33	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C41	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C71	1-107-925-11	ELECT	1MF	20%	100V
C72	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C101	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C102	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C103	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C104	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C105	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C106	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C107	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C108	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C109	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C111	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C112	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C113	1-164-489-11	CERAMIC CHIP	0.22MF	10%	16V
C114	1-101-821-00	CERAMIC	0.0022MF	500V	
C116	1-163-831-00	CERAMIC CHIP	0.047MF	10%	100V
C117	1-107-931-11	ELECT	33MF	20%	100V
C120	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C122	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C201	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C202	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C203	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C204	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C205	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C206	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C207	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C208	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C209	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C210	1-164-489-11	CERAMIC CHIP	0.22MF	10%	16V
C211	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C212	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C213	1-164-489-11	CERAMIC CHIP	0.22MF	10%	16V
C214	1-101-821-00	CERAMIC	0.0022MF	500V	
C216	1-163-831-00	CERAMIC CHIP	0.047MF	10%	100V
C217	1-107-931-11	ELECT	33MF	20%	100V
C220	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C301	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C302	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C303	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C304	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C305	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C306	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C307	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C308	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C309	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C311	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C312	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C314	1-101-821-00	CERAMIC	0.0022MF	500V	

A

Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
C316	1-163-831-00	CERAMIC CHIP 0.047MF 10% 100V	
C317	1-107-931-11	ELECT 33MF 20% 100V	
C320	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C400	1-163-831-00	CERAMIC CHIP 0.047MF 10% 100V	
C500	1-163-831-00	CERAMIC CHIP 0.047MF 10% 100V	
C501	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C502	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C600	1-163-831-00	CERAMIC CHIP 0.047MF 10% 100V	
C601	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C602	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
		CONNECTOR	
CN101*	1-564-518-11	PLUG, CONNECTOR 3P	
CN102*	1-564-520-11	PLUG, CONNECTOR 5P	
CN103*	1-564-522-11	PLUG, CONNECTOR 7P	
CN104*	1-766-179-11	PIN, CONNECTOR (PC BOARD) 2P	
		TRIMMER	
CT101	1-141-436-11	CAP, ADJ	
CT201	1-141-436-11	CAP, ADJ	
CT301	1-141-436-11	CAP, ADJ	
		DIODE	
D1	8-719-404-46	DIODE MA110	
D3	8-719-404-46	DIODE MA110	
D4	8-719-901-83	DIODE 1SS83	
D5	8-719-901-83	DIODE 1SS83	
D6	8-719-901-83	DIODE 1SS83	
D7	8-719-977-00	DIODE DTZ5.1C	
D9	8-719-404-46	DIODE MA110	
D10	8-719-018-47	DIODE SC015-2	
D12	8-719-985-10	DIODE RLZ30D-TE11	
D13	8-719-985-10	DIODE RLZ30D-TE11	
D15	8-719-404-46	DIODE MA110	
D16	8-719-901-83	DIODE 1SS83	
D101	8-719-800-76	DIODE 1SS226	
D102	8-719-800-76	DIODE 1SS226	
D105	8-719-901-83	DIODE 1SS83	
D106	8-719-901-83	DIODE 1SS83	
D201	8-719-800-76	DIODE 1SS226	
D202	8-719-800-76	DIODE 1SS226	
D205	8-719-901-83	DIODE 1SS83	
D206	8-719-901-83	DIODE 1SS83	
D301	8-719-800-76	DIODE 1SS226	
D302	8-719-800-76	DIODE 1SS226	
D305	8-719-901-83	DIODE 1SS83	
D306	8-719-901-83	DIODE 1SS83	
		FERRITE BEAD	
FB1	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
FB101	1-412-390-21	INDUCTOR CHIP 0UH	
FB201	1-412-390-21	INDUCTOR CHIP 0UH	
FB301	1-412-390-21	INDUCTOR CHIP 0UH	

REF.NO.	PART NO.	DESCRIPTION	REMARK
		FILTER	
FL1	1-236-058-21	ENCAPSULATED COMPONENT	
FL2	1-236-058-21	ENCAPSULATED COMPONENT	
FL4	1-236-058-21	ENCAPSULATED COMPONENT	
FL5	1-236-058-21	ENCAPSULATED COMPONENT	
FL6	1-236-058-21	ENCAPSULATED COMPONENT	
FL7	1-236-163-11	ENCAPSULATED COMPONENT	
FL8	1-104-963-11	CERAMIC 0.0022MF 20% 250V	
FL9	1-104-963-11	CERAMIC 0.0022MF 20% 250V	
FL10	1-236-163-11	ENCAPSULATED COMPONENT	
FL11	1-236-163-11	ENCAPSULATED COMPONENT	
FL12	1-236-163-11	ENCAPSULATED COMPONENT	
		IC	
IC1	8-759-996-43	IC RC4558PS	
IC2	8-759-996-43	IC RC4558PS	
IC3	8-759-231-58	IC TA7812S	
IC4	8-759-701-59	IC NJM78M09FA	
IC5	8-759-080-95	IC M62353FP	
IC9	8-759-996-43	IC RC4558PS	
IC101	8-752-059-94	IC CXA1709P	
IC102	8-749-924-03	IC CR2428	
IC201	8-752-059-94	IC CXA1709P	
IC202	8-749-924-03	IC CR2428	
IC301	8-752-059-94	IC CXA1709P	
IC302	8-749-924-03	IC CR2428	
		JACK	
J101	* 1-568-547-11	JACK, MINIATUER PIN	
J201	* 1-568-547-11	JACK, MINIATUER PIN	
J301	* 1-568-547-11	JACK, MINIATUER PIN	
		IC LINK	
PS1	⚠ 1-532-839-21	LINK, IC	1A/90V
		TRANSISTOR	
Q1	8-729-020-07	TRANSISTOR 2SC4686A (LBSONY)	
Q2	8-729-104-27	TRANSISTOR 2SC2780-NK	
Q5	8-729-104-27	TRANSISTOR 2SC2780-NK	
Q7	8-729-020-07	TRANSISTOR 2SC4686A (LBSONY)	
Q9	8-729-809-29	TRANSISTOR 2SC4159-E	
Q100	8-729-129-54	TRANSISTOR 2SC2954	
Q101	8-729-129-54	TRANSISTOR 2SC2954	
Q102	8-729-129-54	TRANSISTOR 2SC2954	
Q103	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q104	8-729-129-54	TRANSISTOR 2SC2954	
Q105	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q200	8-729-129-54	TRANSISTOR 2SC2954	
Q201	8-729-129-54	TRANSISTOR 2SC2954	
Q202	8-729-129-54	TRANSISTOR 2SC2954	
Q203	8-729-107-31	TRANSISTOR 2SC3545-T43	

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REF.NO.	PART NO.	DESCRIPTION				REMARK
Q204	8-729-129-54	TRANSISTOR 2SC2954				
Q205	8-729-112-65	TRANSISTOR 2SA1462-Y33				
Q300	8-729-129-54	TRANSISTOR 2SC2954				
Q301	8-729-129-54	TRANSISTOR 2SC2954				
Q302	8-729-129-54	TRANSISTOR 2SC2954				
Q303	8-729-107-31	TRANSISTOR 2SC3545-T43				
Q304	8-729-129-54	TRANSISTOR 2SC2954				
Q305	8-729-112-65	TRANSISTOR 2SA1462-Y33				
Q400	8-729-105-08	TRANSISTOR 2SA1330-O6				
Q500	8-729-105-08	TRANSISTOR 2SA1330-O6				
Q600	8-729-105-08	TRANSISTOR 2SA1330-O6				
		RESISTOR				
R1	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R4	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R5	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R6	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R8	1-214-921-00	CARBON	220K	5%	1/2W	
R9	1-208-610-11	METAL OXIDE	2M	5%	1W	
R11	1-202-842-11	SOLID	220K	20%	1/2W	
R14	1-208-610-11	METAL OXIDE	2M	5%	1W	
R19	1-208-612-11	METAL OXIDE	10M	5%	1W	
R23	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R24	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R25	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R26	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R31	1-208-612-11	METAL OXIDE	10M	5%	1W	
R32	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R33	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R34	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R35	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R36	1-214-921-00	CARBON	220K	5%	1/2W	
R37	1-215-874-11	METAL OXIDE	6.8K	5%	1W	F
R39	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R40	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R41	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R42	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R43	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R44	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R45	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R46	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R47	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R48	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R54	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R55	1-247-739-11	CARBON	100	5%	1/2W	
R57	1-247-739-11	CARBON	100	5%	1/2W	
R59	1-247-739-11	CARBON	100	5%	1/2W	
R61	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R62	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R63	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R64	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R65	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R66	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R67	1-208-800-11	METAL CHIP	5.6K	0.50%	1/10W	
R68	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R69	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R73	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R78	1-249-417-11	CARBON	1K	5%	1/4W	F
R80	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R81	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R82	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R100	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R101	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R102	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R103	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R104	1-208-810-11	METAL CHIP	15K	0.50%	1/10W	
R105	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R106	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R107	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R108	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R109	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R110	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R111	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R112	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R113	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R114	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R115	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R116	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R117	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R118	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R119	1-208-810-11	METAL CHIP	15K	0.50%	1/10W	
R120	1-208-810-11	METAL CHIP	15K	0.50%	1/10W	
R121	1-208-806-11	METAL CHIP	10K	0.50%	1/10W	
R125	1-247-735-11	CARBON	47	5%	1/2W	F
R131	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R132	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R151	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R152	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R200	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R201	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R202	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R203	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R204	1-208-810-11	METAL CHIP	15K	0.50%	1/10W	
R205	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R206	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R207	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R208	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R209	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R210	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R211	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R212	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R213	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R214	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R215	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R216	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R217	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R218	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R219	1-208-810-11	METAL CHIP	15K	0.50%	1/10W	
R220	1-208-810-11	METAL CHIP	15K	0.50%	1/10W	
R221	1-208-806-11	METAL CHIP	10K	0.50%	1/10W	
R225	1-247-735-11	CARBON	47	5%	1/2W	F

A M

Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION		REMARK
R231	1-216-041-00	METAL GLAZE	470 5% 1/10W	
R232	1-216-041-00	METAL GLAZE	470 5% 1/10W	
R251	1-216-017-00	METAL GLAZE	47 5% 1/10W	
R252	1-216-013-00	METAL GLAZE	33 5% 1/10W	
R300	1-216-631-11	METAL CHIP	150 0.50% 1/10W	
R301	1-216-631-11	METAL CHIP	150 0.50% 1/10W	
R302	1-216-047-00	METAL GLAZE	820 5% 1/10W	
R303	1-216-663-11	METAL CHIP	3.3K 0.50% 1/10W	
R304	1-208-810-11	METAL CHIP	15K 0.50% 1/10W	
R305	1-216-021-00	METAL GLAZE	68 5% 1/10W	
R306	1-216-021-00	METAL GLAZE	68 5% 1/10W	
R307	1-216-021-00	METAL GLAZE	68 5% 1/10W	
R308	1-216-033-00	METAL GLAZE	220 5% 1/10W	
R309	1-216-033-00	METAL GLAZE	220 5% 1/10W	
R310	1-216-025-91	METAL GLAZE	100 5% 1/10W	
R311	1-216-025-91	METAL GLAZE	100 5% 1/10W	
R312	1-216-081-00	METAL GLAZE	22K 5% 1/10W	
R313	1-216-041-00	METAL GLAZE	470 5% 1/10W	
R314	1-216-001-00	METAL GLAZE	10 5% 1/10W	
R315	1-216-001-00	METAL GLAZE	10 5% 1/10W	
R316	1-216-033-00	METAL GLAZE	220 5% 1/10W	
R317	1-216-013-00	METAL GLAZE	33 5% 1/10W	
R318	1-216-041-00	METAL GLAZE	470 5% 1/10W	
R319	1-208-810-11	METAL CHIP	15K 0.50% 1/10W	
R320	1-208-810-11	METAL CHIP	15K 0.50% 1/10W	
R321	1-208-806-11	METAL CHIP	10K 0.50% 1/10W	
R325	1-247-735-11	CARBON	47 5% 1/2W F	
R331	1-216-041-00	METAL GLAZE	470 5% 1/10W	
R332	1-216-041-00	METAL GLAZE	470 5% 1/10W	
R351	1-216-017-00	METAL GLAZE	47 5% 1/10W	
R352	1-216-013-00	METAL GLAZE	33 5% 1/10W	
R401	1-216-073-00	METAL GLAZE	10K 5% 1/10W	
R402	1-218-759-11	METAL CHIP	200K 0.50% 1/10W	
R403	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	
R404	1-218-758-11	METAL CHIP	180K 0.50% 1/10W	
R405	1-208-854-11	METAL CHIP	1M 0.50% 1/10W	
R406	1-216-089-00	METAL GLAZE	47K 5% 1/10W	
R501	1-216-073-00	METAL GLAZE	10K 5% 1/10W	
R502	1-218-759-11	METAL CHIP	200K 0.50% 1/10W	
R503	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	
R504	1-218-758-11	METAL CHIP	180K 0.50% 1/10W	
R505	1-208-854-11	METAL CHIP	1M 0.50% 1/10W	
R506	1-216-089-00	METAL GLAZE	47K 5% 1/10W	
R601	1-216-073-00	METAL GLAZE	10K 5% 1/10W	
R602	1-218-759-11	METAL CHIP	200K 0.50% 1/10W	
R603	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	
R604	1-218-758-11	METAL CHIP	180K 0.50% 1/10W	
R605	1-208-854-11	METAL CHIP	1M 0.50% 1/10W	
R606	1-216-089-00	METAL GLAZE	47K 5% 1/10W	

VARIABLE RESISTOR

RV2	1-223-410-11	RES, ADJ, METAL FILM 110M
RV101	1-238-090-11	RES, ADJ CERMET 10K
RV201	1-238-090-11	RES, ADJ CERMET 10K
RV301	1-238-090-11	RES, ADJ CERMET 10K

REF.NO.	PART NO.	DESCRIPTION	REMARK
		SPARK GAP	
SG2	1-519-422-11	GAP, SPARK	
SG3	1-519-422-11	GAP, SPARK	
SG4	1-519-504-11	GAP, DISCHARGE	
SG5	1-519-504-11	GAP, DISCHARGE	
SG6	1-519-504-11	GAP, DISCHARGE	
SG701	1-519-504-11	GAP, DISCHARGE	
SG801	1-519-504-11	GAP, DISCHARGE	
SG901	1-519-504-11	GAP, DISCHARGE	
		SOCKET	
SK1	⚠ 1-251-116-11	SOCKET, CRT	

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CONNECTOR PANEL (M BOARD)

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(BOARD PART NO. 1-657-361-11)

CAPACITOR

C801	1-124-234-00	ELECT	22MF 20% 16V	
C802	1-161-051-00	CERAMIC	0.01MF 10% 50V	
C803	1-124-234-00	ELECT	22MF 20% 16V	
C804	1-161-051-00	CERAMIC	0.01MF 10% 50V	
C805	1-102-123-00	CERAMIC	0.0033MF 10% 50V	
C806	1-102-973-00	CERAMIC	100PF 5% 50V	
C807	1-136-169-00	FILM	0.22MF 5% 50V	
C808	1-126-163-11	ELECT	4.7MF 20% 50V	
C809	1-136-169-00	FILM	0.22MF 5% 50V	
C810	1-136-169-00	FILM	0.22MF 5% 50V	
C811	1-136-165-00	FILM	0.1MF 5% 50V	
C813	1-163-245-11	CERAMIC CHIP	56PF 5% 50V	
C814	1-161-051-00	CERAMIC	0.01MF 10% 50V	
C815	1-136-153-00	FILM	0.01MF 5% 50V	
C821	1-124-584-00	ELECT	100MF 20% 10V	
C822	1-126-163-11	ELECT	4.7MF 20% 35V	
C823	1-126-320-11	ELECT	10MF 20% 16V	
C824	1-163-127-00	CERAMIC CHIP	270PF 5% 50V	
C851	1-161-051-00	CERAMIC	0.01MF 10% 50V	
C852	1-124-584-00	ELECT	100MF 20% 10V	
C853	1-126-160-11	ELECT	1MF 20% 50V	
C854	1-126-160-11	ELECT	1MF 20% 50V	
C855	1-126-160-11	ELECT	1MF 20% 50V	
C856	1-126-160-11	ELECT	1MF 20% 50V	

CONNECTOR

CN801*	1-564-518-11	PLUG, CONNECTOR 3P
CN802*	1-564-521-11	PLUG, CONNECTOR 6P
CN803*	1-564-522-11	PLUG, CONNECTOR 7P
CN804*	1-564-525-11	PLUG, CONNECTOR 10P
CN807	1-564-523-11	PLUG, CONNECTOR 8P

M

REF.NO.	PART NO.	DESCRIPTION	REMARK
		DIODE	
D851	8-719-800-76	DIODE 1SS226	
D853	8-719-800-76	DIODE 1SS226	
D855	8-719-158-49	DIODE RD12SB2	
D856	8-719-158-49	DIODE RD12SB2	
D857	8-719-159-12	DIODE RD5.1SB2-T2	
D858	8-719-159-12	DIODE RD5.1SB2-T2	
D859	8-719-159-12	DIODE RD5.1SB2-T2	
D860	8-719-159-12	DIODE RD5.1SB2-T2	
D862	8-719-800-76	DIODE 1SS226	
D863	8-719-800-76	DIODE 1SS226	
D864	8-719-404-46	DIODE MA110	
D865	8-719-404-46	DIODE MA110	
D866	8-719-800-76	DIODE 1SS226	
D867	8-719-800-76	DIODE 1SS226	
D868	8-719-800-76	DIODE 1SS226	
D870	8-719-159-12	DIODE RD5.1SB2-T2	
D871	8-719-404-46	DIODE MA110	
D872	8-719-404-46	DIODE MA110	
		FILTER	
FL801	1-236-058-21	ENCAPSULATED COMPONENT	
FL802	1-236-058-21	ENCAPSULATED COMPONENT	
FL851	1-236-058-21	ENCAPSULATED COMPONENT	
FL852	1-236-058-21	ENCAPSULATED COMPONENT	
FL853	1-236-058-21	ENCAPSULATED COMPONENT	
		IC	
IC801	8-752-057-43	IC CXA1616S	
IC802	8-759-338-37	IC 24LC21I/P	
IC803	8-759-054-26	IC HD74HC123AP	
IC851	8-759-065-85	IC MAX232N	
		JACK	
J801	*1-568-547-11	JACK, MINIATUER PIN	
J802	*1-568-547-11	JACK, MINIATUER PIN	
J803	*1-568-547-11	JACK, MINIATUER PIN	
J804	1-562-227-31	RECEPTACLE, BNC	
J805	1-562-227-31	RECEPTACLE, BNC	
J806	1-562-227-31	RECEPTACLE, BNC	
J807	1-562-227-31	RECEPTACLE, BNC	
J808	1-562-227-31	RECEPTACLE, BNC	
J809	1-750-628-11	SOCKET, DIN 8P	
J810	1-750-002-11	CONNECTOR, D SUB 15P	
		TRANSISTOR	
Q801	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q802	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q821	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q822	8-729-119-78	TRANSISTOR 2SC2785-HFE	

REF.NO.	PART NO.	DESCRIPTION			REMARK
		RESISTOR			
R801	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R802	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R803	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R804	1-216-689-11	METAL GLAZE	39K	5%	1/10W
R805	1-216-091-00	METAL GLAZE	56K	5%	1/10W
R806	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R807	1-216-095-00	METAL GLAZE	82K	5%	1/10W
R808	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R809	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R810	1-216-025-91	METAL GLAZE	100	5%	1/10W
R811	1-216-025-91	METAL GLAZE	100	5%	1/10W
R812	1-216-025-91	METAL GLAZE	100	5%	1/10W
R813	1-216-025-91	METAL GLAZE	100	5%	1/10W
R814	1-216-035-00	METAL GLAZE	270	5%	1/10W
R815	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R816	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R821	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R822	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R823	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R824	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R831	1-216-025-91	METAL GLAZE	100	5%	1/10W
R832	1-216-025-91	METAL GLAZE	100	5%	1/10W
R833	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R834	1-216-617-11	METAL CHIP	39	0.50%	1/10W
R835	1-216-617-11	METAL CHIP	39	0.50%	1/10W
R836	1-216-617-11	METAL CHIP	39	0.50%	1/10W
R837	1-216-617-11	METAL CHIP	39	0.50%	1/10W
R838	1-216-665-11	METAL CHIP	3.9K	0.50%	1/10W
R839	1-216-665-11	METAL CHIP	3.9K	0.50%	1/10W
R840	1-216-025-91	METAL GLAZE	100	5%	1/10W
R841	1-216-665-11	METAL CHIP	3.9K	0.50%	1/10W
R842	1-216-665-11	METAL CHIP	3.9K	0.50%	1/10W
R843	1-216-037-00	METAL GLAZE	330	5%	1/10W
R844	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R845	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R848	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R851	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R852	1-216-025-91	METAL GLAZE	100	5%	1/10W
R853	1-216-025-91	METAL GLAZE	100	5%	1/10W
R856	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R857	1-216-033-00	METAL GLAZE	220	5%	1/10W
R858	1-216-017-00	METAL GLAZE	47	5%	1/10W
R859	1-216-017-00	METAL GLAZE	47	5%	1/10W
R860	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R861	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R862	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R872	1-216-097-91	METAL GLAZE	100K	5%	1/10W
		SWITCH			
S801	1-692-623-11	SWITCH, TACTIL			
S802	1-570-845-11	SWITCH, SLIDE			
S803	1-570-145-11	SWITCH, SLIDE			
S804	1-570-145-11	SWITCH, SLIDE			
S805	1-554-949-21	SWITCH, SLIDE			

G

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The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK

⚠ SWITCHING REGULATOR UNIT (G BOARD)

(BOARD PART NO. 1-657-353-11)

⚠4-382-854-01 SCREW (M3X8), P, SW (+)
⚠4-382-854-11 SCREW (M3X10), P, SW (+)

CAPACITOR

REF.NO.	PART NO.	DESCRIPTION			
C602	⚠1-107-533-11	FILM	1MF	20%	250V
C603	⚠1-137-475-11	FILM	2.2MF	10%	250V
C604	⚠1-162-599-12	CERAMIC	0.0047MF	20%	400V
C605	⚠1-162-599-12	CERAMIC	0.0047MF	20%	400V
C606	⚠1-162-599-12	CERAMIC	0.0047MF	400V	
C607	⚠1-162-599-12	CERAMIC	0.0047MF	400V	
C608	⚠1-136-187-11	MYLAR	0.047MF	5%	250
C609	⚠1-107-667-11	ELECT	2.2MF	20%	400V
C610	⚠1-128-526-11	ELECT	100MF	20%	25V
C611	⚠1-130-777-00	MYLAR	0.1MF	5%	63V
C612	⚠1-130-777-00	MYLAR	0.1MF	5%	63V
C613	⚠1-125-657-11	ELECT (SOLID)	820MF	20%	250V
C614	⚠1-125-657-11	ELECT (SOLID)	820MF	20%	250V
C615	⚠1-162-599-12	CERAMIC	0.0047MF	20%	400V
C616	⚠1-162-599-12	CERAMIC	0.0047MF	20%	400V
C617	⚠1-162-599-12	CERAMIC	0.0047MF	20%	400V
C618	⚠1-162-599-12	CERAMIC	0.0047MF	20%	400V
C619	⚠1-137-217-11	FILM	0.01MF	5%	0
C620	⚠1-137-217-11	FILM	0.01MF	5%	0
C621	⚠1-104-799-11	ELECT	22MF	20%	50V
C622	⚠1-128-526-11	ELECT	100MF	20%	25V
C623	⚠1-137-475-11	FILM	2.2MF	10%	250V
C624	⚠1-107-902-11	ELECT	1MF	20%	50V
C625	⚠1-107-902-11	ELECT	1MF	20%	50V
C626	⚠1-107-909-11	ELECT	47MF	20%	50V
C627	⚠1-130-471-00	FILM	0.001MF	2%	50V
C628	⚠1-136-165-00	FILM	0.1MF	5%	50V
C629	⚠1-107-902-11	ELECT	1MF	20%	50V
C630	⚠1-164-644-11	CERAMIC	330PF	10%	500V
C631	⚠1-164-644-11	CERAMIC	330PF	10%	500V
C632	⚠1-137-233-11	FILM	0.0056MF	5%	0
C633	⚠1-128-526-11	ELECT	100MF	20%	25V
C634	⚠1-137-205-11	FILM	0.1MF	5%	400V
C651	⚠1-104-665-11	ELECT	100MF	20%	25V
C652	⚠1-107-929-11	ELECT	10MF	20%	50V
C654	⚠1-107-902-11	ELECT	1MF	20%	50V
C657	⚠1-128-526-11	ELECT	100MF	20%	25V
C658	⚠1-104-799-11	ELECT	22MF	20%	50V
C659	⚠1-128-528-11	ELECT	470MF	20%	25V
C661	⚠1-128-528-11	ELECT	470MF	20%	25V
C662	⚠1-128-526-11	ELECT	100MF	20%	25V
C663	⚠1-128-526-11	ELECT	100MF	20%	25V
C664	⚠1-128-526-11	ELECT	100MF	20%	25V
C665	⚠1-128-528-11	ELECT	470MF	20%	25V
C666	⚠1-128-528-11	ELECT	470MF	20%	25V
C667	⚠1-128-526-11	ELECT	100MF	20%	25V
C668	⚠1-128-526-11	ELECT	100MF	20%	25V
C669	⚠1-128-526-11	ELECT	100MF	20%	25V
C670	⚠1-126-941-11	ELECT	470MF	20%	25V
C671	⚠1-126-105-11	ELECT	1000MF	20%	25V
C672	⚠1-126-105-11	ELECT	1000MF	20%	25V
C673	⚠1-128-526-11	ELECT	100MF	20%	25V
C674	⚠1-128-526-11	ELECT	100MF	20%	25V
C675	⚠1-104-800-11	ELECT	100MF	20%	100V
C676	⚠1-107-931-11	ELECT	33MF	20%	100V
C677	⚠1-107-956-11	ELECT	220MF	20%	200V
C678	⚠1-107-953-11	ELECT	33MF	20%	200V
C679	⚠1-102-228-00	CERAMIC	470PF	10%	500V
C680	⚠1-136-158-00	FILM	0.027MF	5%	50V
C682	⚠1-126-964-11	ELECT	10MF	20%	50V
C683	⚠1-104-799-11	ELECT	22MF	20%	50V
C684	⚠1-107-929-11	ELECT	10MF	20%	50V
C685	⚠1-107-932-11	ELECT	47MF	20%	63V
C686	⚠1-107-894-11	ELECT	220MF	20%	35V
C687	⚠1-107-903-11	ELECT	2.2MF	20%	50V
C689	⚠1-130-777-00	MYLAR	0.1MF	5%	63V
C690	⚠1-136-721-21	FILM	1.5MF	10%	400V

CONNECTOR

REF.NO.	PART NO.	DESCRIPTION
CN601	⚠*1-580-843-11	PIN, CONNECTOR (POWER)
CN602	⚠*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P
CN603	⚠*1-580-690-11	PIN, CONNECTOR (PC BOARD) 2P
CN604	⚠*1-691-961-11	PIN, CONNECTOR (PC BOARD) 2P
CN605	⚠*1-564-515-11	PLUG, CONNECTOR 12P
CN606	⚠*1-564-510-11	PLUG, CONNECTOR 7P
CN607	⚠*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P

DIODE

REF.NO.	PART NO.	DESCRIPTION
D601	⚠8-719-110-35	DIODE RD13ESB1
D602	⚠8-719-510-48	DIODE D1N20R
D603	⚠8-719-028-72	DIODE RGP02-17EL-6433
D604	⚠8-719-510-53	DIODE D4SB60L
D605	⚠8-719-110-58	DIODE RD22ESB3
D606	⚠8-719-970-87	DIODE ERA36-06
D607	⚠8-719-110-53	DIODE RD20ESB2
D608	⚠8-719-110-53	DIODE RD20ESB2
D609	⚠8-719-110-53	DIODE RD20ESB2
D610	⚠8-719-110-53	DIODE RD20ESB2
D611	⚠8-719-510-64	DIODE S2LA20F
D612	⚠8-719-911-19	DIODE 1SS119-25
D613	⚠8-719-911-19	DIODE 1SS119-25
D614	⚠8-719-500-71	DIODE D8LC40
D615	⚠8-719-500-71	DIODE D8LC40
D651	⚠8-719-911-19	DIODE 1SS119-25
D652	⚠8-719-911-19	DIODE 1SS119-25
D653	⚠8-719-109-85	DIODE RD5.1ESB2
D654	⚠8-719-911-19	DIODE 1SS119-25
D655	⚠8-719-911-19	DIODE 1SS119-25
D656	⚠8-719-110-36	DIODE RD13ESB2
D657	⚠8-719-911-19	DIODE 1SS119-25

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REF.NO.	PART NO.	DESCRIPTION	REMARK
D658	⚠8-719-911-19	DIODE 1SS119-25	
D659	⚠8-719-911-19	DIODE 1SS119-25	
D660	⚠8-719-510-48	DIODE D1N20R	
D661	⚠8-719-510-64	DIODE S2LA20F	
D662	⚠8-719-510-64	DIODE S2LA20F	
D663	⚠8-719-510-64	DIODE S2LA20F	
D664	⚠8-719-018-84	DIODE D2S6M	
D665	⚠8-719-018-84	DIODE D2S6M	
D666	⚠8-719-911-19	DIODE 1SS119-25	
D667	⚠8-719-510-48	DIODE D1N20R	
D670	⚠8-719-510-64	DIODE S2LA20F	
D671	⚠8-719-510-64	DIODE S2LA20F	
D672	⚠8-719-911-19	DIODE 1SS119-25	
D673	⚠8-719-510-02	DIODE D1NS4	
D674	⚠8-719-510-02	DIODE D1NS4	
D675	⚠8-719-510-09	DIODE D10SC6M	
D676	⚠8-719-988-31	DIODE D10SC6MR	
D677	⚠8-719-025-10	DIODE D8LC20U	
D678	⚠8-719-054-01	DIODE D8LD40-F	
D679	⚠8-719-054-01	DIODE D8LD40-F	
D682	⚠8-719-911-19	DIODE 1SS119-25	
D684	⚠8-719-510-48	DIODE D1N20R	
D685	⚠8-719-911-19	DIODE 1SS119-25	
D686	⚠8-719-510-02	DIODE D1NS4	
D687	⚠8-719-110-72	DIODE RD30ESB2	
D689	⚠8-719-911-19	DIODE 1SS119-25	
D690	⚠8-719-911-19	DIODE 1SS119-25	

FUSE

F601	⚠1-576-233-41	FUSE (H.B.C.)	
	⚠1-533-250-11	HOLDER, FUSE (F601)	

IC

IC601	⚠8-749-922-70	IC STR-81145A	
IC602	⚠8-749-923-50	PHOTO COUPLER PC111YS	
IC603	⚠8-759-077-25	IC IR3M02A	
IC604	⚠8-759-185-47	IC IR2112	
IC651	⚠8-759-701-56	IC NJM78M05FA	
IC652	⚠8-759-701-65	IC NJM79M05FA	
IC653	⚠8-759-929-62	IC LM7812CT	
IC654	⚠8-759-701-56	IC NJM78M05FA	
IC655	⚠8-759-098-24	IC PQ30RV11	
IC656	⚠8-759-103-93	IC UPC393C	
IC657	⚠8-749-011-49	IC DM-54	

COIL

L601	⚠1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
L651	⚠1-412-533-21	INDUCTOR 47UH	
L652	⚠1-412-533-21	INDUCTOR 47UH	
L653	⚠1-412-525-31	INDUCTOR 10UH	
L654	⚠1-412-525-31	INDUCTOR 10UH	
L655	⚠1-412-533-21	INDUCTOR 47UH	
L656	⚠1-412-533-21	INDUCTOR 47UH	
L670	⚠1-410-671-31	INDUCTOR 47UH	

IC LINK

PS601⚠	1-532-984-11	LINK, IC	2A/90V
PS602⚠	1-532-984-11	LINK, IC	2A/90V
PS603⚠	1-532-984-11	LINK, IC	2A/90V
PS604⚠	1-532-984-11	LINK, IC	2A/90V

TRANSISTOR

Q601	⚠8-729-012-00	TRANSISTOR 2SC4507	
Q603	⚠8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q605	⚠8-729-032-54	TRANSISTOR IRFI-840LF38	
Q606	⚠8-729-032-54	TRANSISTOR IRFI-840LF38	
Q651	⚠8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q652	⚠8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q653	⚠8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q654	⚠8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q655	⚠8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q656	⚠8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q657	⚠8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q660	⚠8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q661	⚠8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q662	⚠8-729-209-15	TRANSISTOR 2SD2012	

RESISTOR

R601	⚠1-202-883-11	SOLID	680K	20%	1/2W
R602	⚠1-260-328-11	CARBON	1K	5%	1/2W
R603	⚠1-215-924-00	METAL OXIDE	15K	5%	3W F
R604	⚠1-216-467-11	METAL OXIDE	56K	5%	2W F
R605	⚠1-249-451-11	CARBON	2.2	5%	1/4W F
R606	⚠1-249-389-11	CARBON	4.7	5%	1/4W F
R607	⚠1-216-467-11	METAL OXIDE	56K	5%	2W F
R610	⚠1-202-933-61	FUSIBLE	0.1	10%	1/2W F
R611	⚠1-249-417-11	CARBON	1K	5%	1/4W
R612	⚠1-249-441-11	CARBON	100K	5%	1/4W
R613	⚠1-215-469-00	METAL	100K	1%	1/4W
R615	⚠1-247-889-00	CARBON	270K	5%	1/4W
R616	⚠1-247-889-00	CARBON	270K	5%	1/4W
R617	⚠1-249-436-11	CARBON	39K	5%	1/4W
R618	⚠1-215-469-00	METAL	100K	1%	1/4W
R621	⚠1-215-451-00	METAL	16K	1%	1/4W
R622	⚠1-215-431-00	METAL	2.7K	1%	1/4W
R624	⚠1-249-421-11	CARBON	2.2K	5%	1/4W
R625	⚠1-215-441-00	METAL	6.8K	1%	1/4W
R626	⚠1-249-417-11	CARBON	1K	5%	1/4W
R627	⚠1-249-429-11	CARBON	10K	5%	1/4W
R628	⚠1-249-417-11	CARBON	1K	5%	1/4W
R629	⚠1-249-429-11	CARBON	10K	5%	1/4W
R630	⚠1-215-445-00	METAL	10K	1%	1/4W
R631	⚠1-215-413-00	METAL	470	1%	1/4W
R632	⚠1-249-389-11	CARBON	4.7	5%	1/4W F
R633	⚠1-249-389-11	CARBON	4.7	5%	1/4W F
R634	⚠1-215-880-00	METAL OXIDE	10	5%	2W F
R635	⚠1-215-880-00	METAL OXIDE	10	5%	2W F

G D

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REF.NO.	PART NO.	DESCRIPTION			REMARK
R636 ⚠	1-216-381-11	METAL OXIDE	0.22	5% 3W	F
R637 ⚠	1-535-303-00	LEAD, JUMPER (5.0MM)			
R638 ⚠	1-535-303-00	LEAD, JUMPER (5.0MM)			
R639 ⚠	1-535-303-00	LEAD, JUMPER (5.0MM)			
R640 ⚠	1-249-436-11	CARBON	39K	5% 1/4W	
R645 ⚠	1-249-417-11	CARBON	1K	5% 1/4W	
R646 ⚠	1-249-424-11	CARBON	3.9K	5% 1/4W	
R647 ⚠	1-249-421-11	CARBON	2.2K	5% 1/4W	
R649 ⚠	1-249-436-11	CARBON	39K	5% 1/4W	
R650 ⚠	1-249-417-11	CARBON	1K	5% 1/4W	
R651 ⚠	1-249-433-11	CARBON	22K	5% 1/4W	
R652 ⚠	1-249-417-11	CARBON	1K	5% 1/4W	
R653 ⚠	1-249-423-11	CARBON	3.3K	5% 1/4W	
R654 ⚠	1-249-423-11	CARBON	3.3K	5% 1/4W	
R655 ⚠	1-249-425-11	CARBON	4.7K	5% 1/4W	
R656 ⚠	1-249-424-11	CARBON	3.9K	5% 1/4W	
R657 ⚠	1-249-417-11	CARBON	1K	5% 1/4W	
R658 ⚠	1-249-419-11	CARBON	1.5K	5% 1/4W	
R659 ⚠	1-249-423-11	CARBON	3.3K	5% 1/4W	
R660 ⚠	1-249-417-11	CARBON	1K	5% 1/4W	
R661 ⚠	1-249-436-11	CARBON	39K	5% 1/4W	
R662 ⚠	1-249-377-11	CARBON	0.47	5% 1/4W	F
R663 ⚠	1-249-377-11	CARBON	0.47	5% 1/4W	F
R664 ⚠	1-535-303-00	LEAD, JUMPER (5.0MM)			
R667 ⚠	1-249-423-11	CARBON	3.3K	5% 1/4	
R668 ⚠	1-249-434-11	CARBON	27K	5% 1/4W	
R670 ⚠	1-215-446-00	METAL	11K	1% 1/4W	
R671 ⚠	1-215-431-00	METAL	2.7K	1% 1/4W	
R673 ⚠	1-249-405-11	CARBON	100	5% 1/4W	F
R675 ⚠	1-249-429-11	CARBON	10K	5% 1/4W	
R677 ⚠	1-249-421-11	CARBON	2.2K	5% 1/4W	
R678 ⚠	1-249-436-11	CARBON	39K	5% 1/4W	
R679 ⚠	1-249-423-11	CARBON	3.3K	5% 1/4W	
R680 ⚠	1-249-417-11	CARBON	1K	5% 1/4W	
R682 ⚠	1-249-429-11	CARBON	10K	5% 1/4W	
R683 ⚠	1-249-436-11	CARBON	39K	5% 1/4W	
R684 ⚠	1-249-429-11	CARBON	10K	5% 1/4W	
R685 ⚠	1-249-436-11	CARBON	39K	5% 1/4W	
R686 ⚠	1-249-441-11	CARBON	100K	5% 1/4W	
R687 ⚠	1-249-422-11	CARBON	2.7K	5% 1/4W	
R688 ⚠	1-249-422-11	CARBON	2.7K	5% 1/4W	
R694 ⚠	1-249-424-11	CARBON	3.9K	5% 1/4W	
R696 ⚠	1-249-405-11	CARBON	100	5% 1/4W	F
R697 ⚠	1-249-436-11	CARBON	39K	5% 1/4W	
R698 ⚠	1-249-424-11	CARBON	3.9K	5% 1/4W	
R699 ⚠	1-249-424-11	CARBON	3.9K	5% 1/4W	

RELAY

RY601 ⚠	1-515-669-21	RELAY
RY602 ⚠	1-515-684-31	RELAY
RY603 ⚠	1-515-684-31	RELAY

TRANSFORMER

T601 ⚠	1-424-505-11	TRANSFORMER, LINE FILTER
T602 ⚠	1-429-148-11	TRANSFORMER, CONVERTER (PIT)
T603 ⚠	1-423-834-11	TRANSFORMER, CONVERTER (SBT)
T604 ⚠	1-429-154-11	TRANSFORMER, CONVERTER (PFT)

THERMISTOR

TH601 ⚠	1-809-260-11	THERMISTOR, POWER

THERMISTOR

THP601 ⚠	1-808-059-31	THERMISTOR, POSITIVE
THP602 ⚠	1-806-449-11	THERMISTOR (POSITIVE)

VARISTOR

VDR601 ⚠	1-810-271-21	VARISTOR ZNR-14DK471U
VDR602 ⚠	1-809-201-21	VARISTOR

DEFLECTION MCB ASSY (D BOARD)

(BOARD PART NO. 1-657-360-11)
(INCLUDING DA, DB BOARD)

	4-040-988-01	SPRING (B), TR RETAINER
	4-040-989-01	SPRING (A), TR RETAINER
	4-040-994-01	SPRING (BB), TR RETAINER
	4-041-004-01	SPRING (C), TR RETAINER
*	4-381-908-01	INSULATOR (B)
	7-685-646-79	SCREW (3X8), TAPPING, (+-) (BV)
	4-382-854-01	SCREW (M3X8), P, SW (+)

CAPACITOR

C001	1-128-526-11	ELECT	100MF	20%	25V
C002	1-128-526-11	ELECT	100MF	20%	16V
C003	1-128-526-11	ELECT	100MF	20%	25V
C004	1-107-908-11	ELECT	33MF	20%	50V
C005	1-107-908-11	ELECT	33MF	20%	50V
C006	1-128-526-11	ELECT	100MF	20%	16V
C007	1-128-528-11	ELECT	470MF	20%	25V
C008	1-162-318-11	CERAMIC	0.001MF	10%	500V
C009	1-128-526-11	ELECT	100MF	20%	25V
C010	1-128-526-11	ELECT	100MF	20%	25V
C011	1-106-365-00	MYLAR	0.0082MF	10%	100V
C012	1-107-929-11	ELECT	10MF	20%	50V
C013	1-137-366-11	FILM	0.0022MF	5%	50V
C014	1-136-173-00	FILM	0.47MF	5%	50V
C015	1-106-361-00	MYLAR	0.0056MF	10%	100V
C016	1-136-165-00	FILM	0.1MF	5%	50V
C017	1-136-165-00	FILM	0.1MF	5%	50V
C018	1-106-357-00	MYLAR	0.0039MF	10%	100V
C019	1-136-155-00	FILM	0.015MF	5%	50V
C020	1-136-156-00	FILM	0.018MF	5%	50V
C021	1-126-105-11	ELECT	1000MF	20%	25V

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REF.NO.	PART NO.	DESCRIPTION			REMARK
C022	1-137-423-11	MYLAR	0.15MF	10%	100V
C023	1-136-153-00	FILM	0.01MF	5%	50V
C024	1-110-641-51	ELECT	33MF	20%	200V
C025	1-136-165-00	FILM	0.1MF	5%	50V
C026	1-106-359-00	MYLAR	0.0047MF	10%	100V
C027	1-106-391-12	MYLAR	0.1MF	10%	200V
C028	1-128-528-11	ELECT	470MF	20%	25V
C029	1-128-528-11	ELECT	470MF	20%	25V
C030	1-102-973-00	CERAMIC	100PF	5%	50V
C031	1-102-973-00	CERAMIC	100PF	5%	50V
C032	1-128-226-11	ELECT	220MF	20%	50V
C033	1-136-153-00	FILM	0.01MF	5%	50V
C034	1-126-326-51	ELECT	10MF	20%	200V
C035	1-106-351-00	MYLAR	0.0022MF	99%	200V
C036	1-107-444-11	CERAMIC	100PF	5%	2KV
C037	1-113-508-11	FILM	0.0043MF	3%	2KV
C038	1-106-367-00	MYLAR	0.01MF	10%	200V
C039	1-107-444-11	CERAMIC	100PF	5%	2KV
C040	1-104-711-11	ELECT	4.7MF	0	200V
C041	1-136-165-00	FILM	0.1MF	5%	50V
C042	1-136-165-00	FILM	0.1MF	5%	50V
C043	1-104-966-11	ELECT	10MF	0	200V
C044	1-106-351-00	MYLAR	0.0022MF	99%	200V
C045	1-136-165-00	FILM	0.1MF	5%	50V
C046	1-136-177-00	FILM	1MF	5%	50V
C047	1-106-391-12	MYLAR	0.1MF	10%	200V
C048	1-126-105-11	ELECT	1000MF	20%	25V
C049	1-126-105-11	ELECT	1000MF	20%	25V
C050	1-136-165-00	FILM	0.1MF	5%	50V
C051	1-104-664-11	ELECT	47MF	20%	25V
C052	1-106-371-00	MYLAR	0.015MF	99%	200V
C053	1-128-526-11	ELECT	100MF	20%	16V
C055	1-136-165-00	FILM	0.1MF	5%	50V
C056	1-110-641-51	ELECT	33MF	20%	200V
C057	1-102-525-11	CERAMIC	68PF	5%	50V
C058	1-126-157-11	ELECT	10MF	20%	16V
C059	1-106-391-12	MYLAR	0.1MF	10%	200V
C060	1-113-603-91	CAP, ELECT 10MF			
C061	1-137-366-11	FILM	0.0022MF	5%	50V
C062	1-136-165-00	FILM	0.1MF	5%	50V
C063	1-130-472-00	MYLAR	0.0012MF	5%	50V
C064	1-109-842-11	CERAMIC	10PF	5%	2KV
C065	1-109-842-11	CERAMIC	10PF	5%	2KV
C066	1-162-114-00	CERAMIC	0.0047MF	2KV	
C067	1-136-539-11	FILM	0.0022MF	3%	2KV
C068	1-107-902-11	ELECT	1MF	20%	50V
C069	1-162-134-11	CERAMIC	470PF	10%	2KV
C070	1-107-803-11	FILM	0.18MF	5%	400V
C071	1-136-105-00	FILM	0.33MF	5%	200V
C072	1-106-351-00	MYLAR	0.0022MF	99%	200V
C073	1-107-847-11	FILM	0.36MF	5%	400V
C074	1-109-961-11	FILM	0.75MF	5%	400V
C075	1-107-846-11	FILM	0.1MF	5%	400V
C076	1-107-909-11	ELECT	47MF	20%	50V
C077	1-107-929-11	ELECT	10MF	20%	100V
C078	1-136-060-00	FILM	0.047MF	5%	400V
C079	1-107-909-11	ELECT	47MF	20%	50V
C080	1-136-121-00	FILM	0.27MF	5%	400V
C081	1-136-103-00	FILM	0.1MF	5%	200V
C082	1-130-481-00	FILM	0.0068MF	5%	50V
C083	1-136-159-00	FILM	0.033MF	5%	50V
C084	1-136-165-00	FILM	0.1MF	5%	50V
C085	1-113-603-91	CAP, ELECT 10MF			
C086	1-137-433-11	FILM	0.0012MF	5%	50V
C087	1-106-391-12	MYLAR	0.1MF	10%	200V
C088	1-136-157-00	FILM	0.022MF	5%	50V
C089	1-102-820-00	CERAMIC	330PF	5%	50V
C090	1-104-718-91	CERAMIC	33PF	5%	2KV
C091	1-104-718-91	CERAMIC	33PF	5%	2KV
C092	1-126-163-11	ELECT	4.7MF	20%	50V
C094	1-137-380-11	FILM	0.47MF	5%	50V
C096	1-107-849-11	FILM	1.5MF	5%	400V
C097	1-126-163-11	ELECT	4.7MF	20%	50V
C098	1-107-929-11	ELECT	10MF	20%	50V
C099	1-162-116-00	CERAMIC	680PF	10%	2KV

CONNECTOR

CN01	*1-750-627-11	CONNECTOR, BOARD TO BOARD
CN02	*1-750-627-11	CONNECTOR, BOARD TO BOARD
CN03	*1-691-616-11	CONNECTOR, BOARD TO BOARD 15P
CN401	*1-564-506-11	PLUG, CONNECTOR 3P
CN402	*1-564-508-11	PLUG, CONNECTOR 5P
CN403	*1-564-515-11	PLUG, CONNECTOR 12P
CN404	*1-750-916-11	PIN, CONNECTOR (DY) (PC BOARD)8P
CN405	*1-564-522-11	PLUG, CONNECTOR 7P
CN406	1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P
CN407	*1-573-986-11	PIN, CONNECTOR (PC BOARD) 5P
CN408	*1-564-514-11	PLUG, CONNECTOR 11P
CN409	*1-564-511-11	PLUG, CONNECTOR 8P
CN410	*1-564-509-11	PLUG, CONNECTOR 6P
CN411	*1-564-510-11	PLUG, CONNECTOR 7P

MODULE

CP1	⚠1-810-059-12	PROTECTOR MODULE, HV (HVPM-2A)

RES ASSY

CR1	⚠1-223-394-11	RES ASSY (HIGH VOLTAGE) (WF-701)

DIODE

D1	8-719-110-13	DIODE RD9.1ESB2
D2	8-719-048-73	DIODE ERC90M-03
D3	8-719-048-73	DIODE ERC90M-03
D4	8-719-053-57	DIODE 5VUZ52
D6	8-719-911-19	DIODE 1SS119-25
D7	8-719-979-85	DIODE EGP20G-PKG23
D8	8-719-979-85	DIODE EGP20G-PKG23
D9	8-719-912-20	DIODE 1SS120

D

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The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
D10	8-719-975-77	DIODE SB340	
D11	8-719-911-19	DIODE 1SS119-25	
D14	8-719-979-58	DIODE EGP10D	
D15	8-719-048-73	DIODE ERC90M-03	
D16	8-719-048-73	DIODE ERC90M-03	
D17	8-719-110-13	DIODE RD9.1ESB2	
D18	8-719-911-19	DIODE 1SS119-25	
D19	8-719-908-03	DIODE GP08D	
D20	8-719-911-19	DIODE 1SS119-25	
D21	8-719-911-19	DIODE 1SS119-25	
D22	8-719-911-19	DIODE 1SS119-25	
D23	8-719-018-82	DIODE RGP02-20EL-6394	
D24	8-719-911-19	DIODE 1SS119-25	
D25	8-719-911-19	DIODE 1SS119-25	
D26	8-719-908-03	DIODE GP08D	
D27	8-719-911-19	DIODE 1SS119-25	
D28	8-719-979-84	DIODE EGP20DPKG23	
D29	8-719-911-19	DIODE 1SS119-25	
D30	8-719-911-19	DIODE 1SS119-25	
D31	8-719-911-19	DIODE 1SS119-25	
D32	8-719-911-19	DIODE 1SS119-25	
D33	8-719-110-49	DIODE RD18ESB2	
D34	8-719-110-49	DIODE RD18ESB2	
D35	8-719-911-19	DIODE 1SS119-25	
D36	8-719-911-19	DIODE 1SS119-25	
D37	8-719-911-19	DIODE 1SS119-25	
D38	8-719-110-49	DIODE RD18ESB2	
D39	8-719-110-31	DIODE RD12ESB2	
D40	8-719-951-30	DIODE ERA91-02	
D41	8-719-911-19	DIODE 1SS119-25	
D42	8-719-110-41	DIODE RD15ESB2	
D43	8-719-911-19	DIODE 1SS119-25	
D44	8-719-911-19	DIODE 1SS119-25	
D45	8-719-911-19	DIODE 1SS119-25	
D46	8-719-901-83	DIODE 1SS83	
D47	8-719-911-19	DIODE 1SS119-25	
D48	8-719-911-19	DIODE 1SS119-25	
D49	8-719-911-19	DIODE 1SS119-25	
D50	8-719-911-19	DIODE 1SS119-25	
D51	8-719-018-82	DIODE RGP02-20EL-6394	
D52	8-719-018-82	DIODE RGP02-20EL-6394	
D53	8-719-911-19	DIODE 1SS119-25	
D54	8-719-018-82	DIODE RGP02-20EL-6394	
D55	8-719-911-19	DIODE 1SS119-25	
D56	8-719-911-19	DIODE 1SS119-25	
D012	8-719-045-48	DIODE FML-G12S	
D013	8-719-045-48	DIODE FML-G12S	
		FERRITE BEAD	
FB1	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
FB2	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
FB3	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
FB4	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	

REF.NO.	PART NO.	DESCRIPTION	REMARK
		IC	
IC1	8-759-234-65	IC TA7812S	
IC2	8-759-700-69	IC NJM79L12A	
IC4	8-729-021-70	TRANSISTOR IRHT5305	
IC5	8-759-916-25	IC SN74HC32AN	
IC6	8-759-980-58	IC TDA8172	
IC7	8-759-145-58	IC UPC4558C	
IC11	8-759-503-91	IC TL082ACP	
		COIL	
L001	1-412-537-31	INDUCTOR 100UH	
L002	1-412-537-31	INDUCTOR 100UH	
L003	1-412-537-31	INDUCTOR 100UH	
L004	1-412-534-31	INDUCTOR 56UH	
L005	1-412-537-31	INDUCTOR 100UH	
L006	1-406-818-11	COIL, CHOKE 2.2MMH	
L007	1-406-670-11	COIL, CHOKE 680UH	
L008	1-412-519-11	INDUCTOR 3.3UH	
L009	1-412-045-11	INDUCTOR 2.2MMH	
L010	1-412-549-31	INDUCTOR 1MMH	
L011	1-412-533-21	INDUCTOR 47UH	
L012	1-406-671-11	COIL, CHOKE 1.0MMH	
L013	1-406-661-11	COIL, CHOKE 22UH	
L014	1-412-529-11	INDUCTOR 22UH	
L015	1-411-477-11	COIL, HORIZONTAL LINEARITY	
L016	1-411-478-11	COIL, HORIZONTAL LINEARITY	
L017	1-412-537-31	INDUCTOR 100UH	
L018	1-406-675-11	COIL, CHOKE 4.7MMH	
		IC LINK	
PS001⚠	1-532-839-21	LINK, IC 1A/90V	
PS002⚠	1-532-839-21	LINK, IC 1A/90V	
PS003⚠	1-532-686-91	LINK, IC 2.7A/150V	
		TRANSISTOR	
Q2	8-729-015-28	TRANSISTOR IRFI9630GS	
Q3	8-729-031-87	TRANSISTOR 2SC5047-CA	
Q4	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q5	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q6	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q7	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q8	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q9	8-729-140-96	TRANSISTOR 2SD774-34	
Q11	8-729-015-28	TRANSISTOR IRFI9630GS	
Q12	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q13	8-729-020-64	TRANSISTOR IRFPG50LF	
Q14	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q15	8-729-266-83	TRANSISTOR 2SC2668-Y	
Q16	8-729-020-07	TRANSISTOR 2SC4686A (LBSONY)	
Q17	8-729-140-96	TRANSISTOR 2SD774-34	
Q18	8-729-015-28	TRANSISTOR IRFI9630GS	
Q19	8-729-031-97	TRANSISTOR IRFI624G	
Q20	8-729-119-76	TRANSISTOR 2SA1175-HFE	

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REF.NO.	PART NO.	DESCRIPTION				REMARK
Q21	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q22	8-729-266-83	TRANSISTOR 2SC2668-Y				
Q23	8-729-820-73	TRANSISTOR 2SC3746				
Q24	8-729-209-15	TRANSISTOR 2SD2012				
Q25	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q26	8-729-020-07	TRANSISTOR 2SC4686A (LBSONY)				
Q28	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q027	8-729-119-78	TRANSISTOR 2SC2785-HFE				
		RESISTOR				
R001	1-260-312-11	CARBON	47	5%	1/2W	
R002	1-215-465-00	METAL	68K	1%	1/4W	
R003	1-247-807-31	CARBON	100	5%	1/4W	
R004	1-215-464-00	METAL	62K	1%	1/4W	
R005	1-215-441-00	METAL	6.8K	1%	1/4W	
R006	1-215-437-00	METAL	4.7K	1%	1/4W	
R007	1-249-425-11	CARBON	4.7K	5%	1/4W	
R008	1-249-425-11	CARBON	4.7K	5%	1/4W	
R009	1-260-294-11	CARBON	1.5	5%	1/2W	
R010	1-249-420-11	CARBON	1.8K	5%	1/4W	F
R011	1-249-401-11	CARBON	47	5%	1/4W	
R012	1-215-469-00	METAL	100K	1%	1/4W	
R013	1-249-428-11	CARBON	8.2K	5%	1/4W	
R014	1-249-421-11	CARBON	2.2K	5%	1/4W	
R015	1-249-417-11	CARBON	1K	5%	1/4W	
R016	1-249-402-11	CARBON	56	5%	1/4W	
R017	1-215-430-00	METAL	2.4K	1%	1/4W	
R018	1-247-903-00	CARBON	1M	5%	1/4W	
R019	1-214-800-11	METAL	2.2	1%	1/2W	
R020	1-214-800-11	METAL	2.2	1%	1/2W	
R021	1-215-892-11	METAL OXIDE	1K	5%	2W	F
R022	1-249-397-11	CARBON	22	5%	1/4W	F
R023	1-249-402-11	CARBON	56	5%	1/4W	
R024	1-249-417-11	CARBON	1K	5%	1/4W	
R025	1-216-425-11	METAL OXIDE	56	5%	1W	F
R026	1-247-807-31	CARBON	100	5%	1/4W	
R027	1-247-807-31	CARBON	100	5%	1/4W	
R028	1-249-419-11	CARBON	1.5K	5%	1/4W	
R029	1-216-398-11	METAL OXIDE	5.6	5%	3W	F
R030	1-216-398-11	METAL OXIDE	5.6	5%	3W	F
R031	1-216-398-11	METAL OXIDE	5.6	5%	3W	F
R032	1-260-295-11	CARBON	1.8	5%	1/2W	
R033	1-249-433-11	CARBON	22K	5%	1/4W	
R034	1-249-417-11	CARBON	1K	5%	1/4W	
R035	1-260-295-11	CARBON	1.8	5%	1/2W	
R036	1-215-465-00	METAL	68K	1%	1/4W	
R037	1-249-429-11	CARBON	10K	5%	1/4W	
R038	1-216-447-00	METAL OXIDE	27	5%	2W	F
R039	1-249-429-11	CARBON	10K	5%	1/4W	
R040	1-247-883-00	CARBON	150K	5%	1/4W	
R041	1-249-421-11	CARBON	2.2K	5%	1/4W	
R042	1-249-433-11	CARBON	22K	5%	1/4W	
R043	1-247-815-91	CARBON	220	5%	1/4W	
R044	1-247-815-91	CARBON	220	5%	1/4W	
R045	1-249-441-11	CARBON	100K	5%	1/4W	
R046	1-249-437-11	CARBON	47K	5%	1/4W	
R047	1-215-457-00	METAL	33K	1%	1/4W	
R048	1-249-470-11	CARBON	0.47	5%	1/2W	F
R049	1-260-288-11	CARBON	0.47	5%	1/2W	
R050	1-249-417-11	CARBON	1K	5%	1/4W	F
R051	1-249-433-11	CARBON	22K	5%	1/4W	
R052	1-249-437-11	CARBON	47K	5%	1/4W	
R053	1-249-417-11	CARBON	1K	5%	1/4W	
R054	1-215-437-00	METAL	4.7K	1%	1/4W	
R055	1-249-421-11	CARBON	2.2K	5%	1/4W	
R056	1-249-425-11	CARBON	4.7K	5%	1/4W	
R057	1-247-807-31	CARBON	100	5%	1/4W	
R058	1-249-434-11	CARBON	27K	5%	1/4W	
R059	1-249-421-11	CARBON	2.2K	5%	1/4W	
R060	1-215-861-00	METAL OXIDE	47	5%	1W	F
R064	1-215-455-00	METAL	27K	1%	1/4W	
R065	1-249-433-11	CARBON	22K	5%	1/4W	
R066	1-215-439-00	METAL	5.6K	1%	1/4W	
R067	1-249-421-11	CARBON	2.2K	5%	1/4W	
R068	1-249-425-11	CARBON	4.7K	5%	1/4W	
R070	1-249-429-11	CARBON	10K	5%	1/4W	
R071	1-249-429-11	CARBON	10K	5%	1/4W	
R072	1-247-899-11	CARBON	680K	5%	1/4W	
R073	1-249-417-11	CARBON	1K	5%	1/4W	
R074	1-249-417-11	CARBON	1K	5%	1/4W	
R075	1-249-431-11	CARBON	15K	5%	1/4W	
R076	1-249-433-11	CARBON	22K	5%	1/4W	
R077	1-202-830-00	SOLID	10K	20%	1/2W	
R078	1-216-386-11	METAL OXIDE	0.56	5%	3W	F
R079	1-215-449-00	METAL	15K	1%	1/4W	
R080	1-208-611-11	METAL OXIDE	3.9M	5%	1W	
R081	1-247-895-00	CARBON	470K	5%	1/4W	
R082	1-249-433-11	CARBON	22K	5%	1/4W	
R083	1-215-461-00	METAL	47K	1%	1/4W	
R084	1-249-431-11	CARBON	15K	5%	1/4W	
R085	1-249-433-11	CARBON	22K	5%	1/4W	
R086	1-249-397-11	CARBON	22	5%	1/4W	F
R087	1-249-414-11	CARBON	560	5%	1/4W	
R088	1-247-903-00	CARBON	1M	5%	1/4W	
R089	1-249-887-11	CARBON	33	5%	1/4W	F
R090	1-215-860-11	METAL OXIDE	33	5%	1W	F
R091	1-249-423-11	CARBON	3.3K	5%	1/4W	
R092	1-249-437-11	CARBON	47K	5%	1/4W	
R093	1-208-609-11	METAL OXIDE	1.5M	5%	1W	
R094	1-208-609-11	METAL OXIDE	1.5M	5%	1W	
R095	1-215-437-00	METAL	4.7K	1%	1/4W	
R096	1-215-912-11	METAL OXIDE	150	5%	3W	F
R097	1-249-425-11	CARBON	4.7K	5%	1/4W	
R098	1-249-413-11	CARBON	470	5%	1/4W	F
R099	1-215-922-11	METAL OXIDE	6.8K	5%	3W	F
R100	1-215-914-11	METAL OXIDE	330	5%	3W	F
R101	1-249-405-11	CARBON	100	5%	1/4W	F
R102	1-215-922-11	METAL OXIDE	6.8K	5%	3W	F
R104	1-249-423-11	CARBON	3.3K	5%	1/4W	
R105	1-249-423-11	CARBON	3.3K	5%	1/4W	
R106	1-247-903-00	CARBON	1M	5%	1/4W	

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REF.NO.	PART NO.	DESCRIPTION			REMARK
R107	1-216-449-11	METAL OXIDE	56	5% 2W	F
R108	1-215-914-11	METAL OXIDE	330	5% 3W	F
R110	1-249-406-11	CARBON	120	5% 1/4W	
R111	1-249-429-11	CARBON	10K	5% 1/4W	
R112	1-249-383-11	CARBON	1.5	5% 1/4W	F
R113	1-249-421-11	CARBON	2.2K	5% 1/4W	
R114	⚠ 1-215-455-91	METAL	27K	1% 1/4W	
R115	⚠ 1-215-433-91	METAL	3.3K	1% 1/4W	
R116	⚠ 1-215-445-91	METAL	10K	1% 1/4W	
R125	1-249-437-11	CARBON	47K	5% 1/4W	
R126	1-249-437-11	CARBON	47K	5% 1/4W	
R127	1-249-384-11	CARBON	1.8	5% 1/4W	F
R128	1-249-384-11	CARBON	1.8	5% 1/4W	F
R129	1-218-748-11	METAL CHIP	220K	0.50% 1/16W	
R130	1-249-417-11	CARBON	1K	5% 1/4W	
R138	1-215-863-11	METAL OXIDE	100	5% 1W	F
R139	1-249-417-11	CARBON	1K	5% 1/4W	
R141	1-215-473-00	METAL	150K	1% 1/4W	
R142	1-215-473-00	METAL	150K	1% 1/4W	
R149	1-202-830-00	SOLID	10K	20% 1/2W	
R150	1-249-403-11	CARBON	68	5% 1/4W	
R151	1-249-437-11	CARBON	47K	5% 1/4W	
R152	1-249-433-11	CARBON	22K	5% 1/4W	
R153	1-249-385-11	CARBON	2.2	5% 1/4W	

RELAY

RY001	1-515-669-21	RELAY

SPARK GAP

SG1	1-519-422-11	GAP, SPARK
SG2	1-519-422-11	GAP, SPARK
SG3	1-519-422-11	GAP, SPARK

TRANSFORMER

T1	1-423-769-11	TRANSFORMER, HORIZONTAL DRIVE
T2	1-429-146-11	TRANSFORMER, FERRITE (HOT)
T4	1-429-147-11	TRANSFORMER, FERRITE (LOT)
T6	⚠ 1-453-154-22	TRANSFORMER ASSY, FLYBACK
T7	1-424-555-11	TRANSFORMER, FERRITE (DFT)
T8	1-423-405-12	TRANSFORMER, FERRITE (FRT)

CRISTAL

X101	1-760-040-11	VIBRATOR, CRYSTAL

DA BOARD, COMPLETE

(BOARD PART NO. 1-657-358-12)

CAPACITOR

C101	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C102	1-104-563-11	FILM CHIP	0.1MF	5%	16V
C103	1-104-551-11	FILM CHIP	0.01MF	5%	16V
C104	1-126-396-11	ELECT CHIP	47MF	20%	16V
C105	1-107-439-11	CERAMIC CHIP	0.001MF	10%	50V
C106	1-126-401-11	ELECT CHIP	1MF	20%	50V
C107	1-104-559-11	FILM CHIP	0.047MF	5%	16V
C108	1-126-401-11	ELECT CHIP	1MF	20%	50V
C109	1-126-394-11	ELECT CHIP	10MF	20%	16V
C110	1-126-396-11	ELECT CHIP	47MF	20%	16V
C111	1-126-395-11	ELECT CHIP	22MF	20%	16V
C112	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C113	1-107-439-11	CERAMIC CHIP	0.001MF	10%	50V
C114	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V
C115	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V
C116	1-135-091-91	TANTAL. CHIP	1MF	20%	16V
C117	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C118	1-135-091-91	TANTAL. CHIP	1MF	20%	16V
C119	1-104-563-11	FILM CHIP	0.1MF	5%	16V
C120	1-126-399-11	ELECT CHIP	10MF	20%	35V
C121	1-126-399-11	ELECT CHIP	10MF	20%	35V
C122	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C123	1-107-439-11	CERAMIC CHIP	0.001MF	10%	50V
C124	1-104-563-11	FILM CHIP	0.1MF	5%	16V
C125	1-107-443-11	CERAMIC CHIP	0.01MF	10%	50V
C126	1-126-401-11	ELECT CHIP	1MF	20%	50V
C127	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C128	1-104-562-11	FILM CHIP	0.082MF	5%	16V
C129	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C130	1-162-928-11	CERAMIC CHIP	120PF	5%	50V
C131	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C132	1-104-552-11	FILM CHIP	0.012MF	5%	16V
C133	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C134	1-107-443-11	CERAMIC CHIP	0.01MF	10%	50V
C135	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C136	1-104-540-11	FILM CHIP	0.0012MF	5%	50V
C137	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C138	1-126-401-11	ELECT CHIP	1MF	20%	50V
C139	1-126-398-11	ELECT CHIP	4.7MF	20%	35V
C140	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C141	1-104-545-11	FILM CHIP	0.0033MF	5%	16V
C142	1-126-401-11	ELECT CHIP	1MF	20%	50V
C143	1-104-539-11	FILM CHIP	0.001MF	5%	50V
C144	1-126-396-11	ELECT CHIP	47MF	20%	16V
C145	1-109-855-11	FILM CHIP	0.001MF	2%	50V
C146	1-107-443-11	CERAMIC CHIP	0.01MF	10%	50V
C147	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C149	1-126-402-11	ELECT CHIP	2.2MF	20%	50V
C150	1-126-402-11	ELECT CHIP	2.2MF	20%	50V

REF.NO.	PART NO.	DESCRIPTION			REMARK
C152	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C153	1-107-443-11	CERAMIC CHIP	0.01MF	10% 50V	
C154	1-164-315-11	CERAMIC CHIP	470PF	5% 50V	
C155	1-107-443-11	CERAMIC CHIP	0.01MF	10% 50V	
C156	1-126-396-11	ELECT CHIP	47MF	20% 16V	
C157	1-107-443-11	CERAMIC CHIP	0.01MF	10% 50V	
C158	1-126-401-11	ELECT CHIP	1MF	20% 50V	
C160	1-126-396-11	ELECT CHIP	47MF	20% 16V	
C161	1-162-910-11	CERAMIC CHIP	5PF	0.25PF 50V	
C162	1-104-563-11	FILM CHIP	0.1MF	5% 16V	
C163	1-104-563-11	FILM CHIP	0.1MF	5% 16V	
C164	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C166	1-107-443-11	CERAMIC CHIP	0.01MF	10% 50V	
C167	1-126-395-11	ELECT CHIP	22MF	20% 16V	
C168	1-126-396-11	ELECT CHIP	47MF	20% 16V	
C169	1-126-395-11	ELECT CHIP	22MF	20% 16V	
C170	1-126-395-11	ELECT CHIP	22MF	20% 16V	
C171	1-126-395-11	ELECT CHIP	22MF	20% 16V	
C172	1-162-928-11	CERAMIC CHIP	120PF	5% 50V	
C173	1-107-439-11	CERAMIC CHIP	0.001MF	10% 50V	
C174	1-107-439-11	CERAMIC CHIP	0.001MF	10% 50V	
C175	1-107-439-11	CERAMIC CHIP	0.001MF	10% 50V	
C176	1-164-218-11	CERAMIC CHIP	180PF	5% 50V	
C177	1-162-928-11	CERAMIC CHIP	120PF	5% 50V	
C178	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C180	1-126-395-11	ELECT CHIP	22MF	20% 16V	
C181	1-107-443-11	CERAMIC CHIP	0.01MF	10% 50V	
C182	1-104-557-11	FILM CHIP	0.033MF	5% 16V	
C183	1-126-401-11	ELECT CHIP	1MF	20% 50V	
C184	1-107-443-11	CERAMIC CHIP	0.01MF	10% 50V	
C185	1-107-443-11	CERAMIC CHIP	0.01MF	10% 50V	
C202	1-126-394-11	ELECT CHIP	10MF	20% 16V	

CONNECTOR

CN1	*1-750-626-21	CONNECTOR, BOARD TO BOARD (PLUG)
CN2	*1-750-626-21	CONNECTOR, BOARD TO BOARD (PLUG)

DIODE

D101	8-719-977-95	DIODE DTZ-TT11-2.4B
D102	8-719-404-46	DIODE MA110
D105	8-719-404-46	DIODE MA110
D106	8-719-404-46	DIODE MA110
D108	8-719-033-52	DIODE RD5.1SB1-T1
D109	8-719-404-46	DIODE MA110
D110	8-719-158-49	DIODE RD12SB2
D111	8-719-404-46	DIODE MA110
D112	8-719-404-46	DIODE MA110
D116	8-719-404-46	DIODE MA110
D118	8-719-404-46	DIODE MA110
D119	8-719-404-46	DIODE MA110
D120	8-719-033-52	DIODE RD5.1SB1-T1
D121	8-719-033-52	DIODE RD5.1SB1-T1
D122	8-719-404-46	DIODE MA110
D123	8-719-404-46	DIODE MA110
D124	8-719-033-52	DIODE RD5.1SB1-T1

IC

IC101	8-752-065-79	IC CXA1470AM-T6
IC102	8-759-158-86	IC CXA8021M-T6
IC103	8-759-041-45	IC DAC8840FS
IC104	8-759-158-86	IC CXA8021M-T6
IC105	8-752-066-34	IC CXA1726M-T6
IC106	8-759-996-43	IC RC4558PS
IC107	8-759-996-43	IC RC4558PS
IC108	8-759-156-54	IC X25040SI
IC109	8-759-156-54	IC X25040SI
IC110	8-759-926-05	IC SN74HC125ANS
IC111	8-759-351-05	IC HD6473256F10
IC112	8-759-996-43	IC RC4558PS
IC113	8-759-162-80	IC MM1170BFB
IC114	8-759-239-55	IC TC74HC123AF
IC115	8-759-158-84	IC CXA1543M-T6
IC116	8-759-158-82	IC CXA1544M-T6
IC117	8-759-009-82	IC MC14011BF-T2
IC118	8-759-278-58	IC NJM4558V-TE2
IC119	8-759-239-23	IC TC74HC86AF
IC120	8-759-925-90	IC SN74HC74ANS
IC121	8-759-239-55	IC TC74HC123AF
IC122	8-759-996-43	IC RC4558PS
IC130	8-759-062-66	IC TC7S66F
IC131	8-759-031-84	IC SC7S04F

TRANSISTOR

Q101	8-729-402-42	TRANSISTOR UN5213
Q102	8-729-230-63	TRANSISTOR 2SC4116-YG
Q103	8-729-402-42	TRANSISTOR UN5213
Q104	8-729-402-42	TRANSISTOR UN5213
Q105	8-729-420-24	TRANSISTOR 2SB1218A-QRS
Q106	8-729-402-42	TRANSISTOR UN5213
Q107	8-729-420-24	TRANSISTOR 2SB1218A-QRS

RESISTOR

R101	1-216-830-11	METAL GLAZE	5.6K	5% 1/16W	
R102	1-216-834-11	METAL GLAZE	12K	5% 1/16W	
R103	1-216-830-11	METAL GLAZE	5.6K	5% 1/16W	
R104	1-216-821-11	METAL GLAZE	1K	5% 1/16W	
R105	1-218-702-11	METAL CHIP	2.7K	0.50% 1/16W	
R106	1-218-692-11	METAL CHIP	1K	0.50% 1/16W	
R107	1-216-827-11	METAL GLAZE	3.3K	5% 1/16W	
R109	1-215-914-11	METAL OXIDE	330	5% 3W	F
R109	1-216-821-11	METAL GLAZE	1K	5% 1/16W	
R110	1-218-707-11	METAL CHIP	4.3K	0.50% 1/16W	
R111	1-218-710-11	METAL CHIP	5.6K	0.50% 1/16W	
R112	1-218-720-11	METAL CHIP	15K	0.50% 1/16W	
R113	1-218-873-11	METAL CHIP	12K	0.50% 1/16W	
R114	1-218-704-11	METAL CHIP	3.3K	0.50% 1/16W	
R115	1-218-716-11	METAL CHIP	10K	0.50% 1/16W	

DA

REF.NO.	PART NO.	DESCRIPTION		REMARK
R116	1-218-708-11	METAL CHIP	4.7K	0.50% 1/16W
R117	1-218-858-11	METAL CHIP	3K	0.50% 1/16W
R118	1-218-694-11	METAL CHIP	1.2K	0.50% 1/16W
R119	1-218-716-11	METAL CHIP	10K	0.50% 1/16W
R120	1-218-873-11	METAL CHIP	12K	0.50% 1/16W
R121	1-218-710-11	METAL CHIP	5.6K	0.50% 1/16W
R122	1-218-704-11	METAL CHIP	3.3K	0.50% 1/16W
R123	1-218-733-11	METAL CHIP	51K	0.50% 1/16W
R124	1-218-700-11	METAL CHIP	2.2K	0.50% 1/16W
R125	1-216-817-11	METAL GLAZE	470	5% 1/16W
R126	1-216-817-11	METAL GLAZE	470	5% 1/16W
R127	1-218-738-11	METAL CHIP	82K	0.50% 1/16W
R128	1-218-748-11	METAL CHIP	220K	0.50% 1/16W
R129	1-249-437-11	CARBON	47K	5% 1/4W
R130	1-218-724-11	METAL CHIP	22K	0.50% 1/16W
R131	1-218-889-11	METAL CHIP	56K	0.50% 1/16W
R132	1-218-716-11	METAL CHIP	10K	0.50% 1/16W
R133	1-218-717-11	METAL CHIP	11K	0.50% 1/16W
R134	1-218-873-11	METAL CHIP	12K	0.50% 1/16W
R135	1-218-724-11	METAL CHIP	22K	0.50% 1/16W
R136	1-218-883-11	METAL CHIP	33K	0.50% 1/16W
R137	1-218-724-11	METAL CHIP	22K	0.50% 1/16W
R138	1-216-841-11	METAL GLAZE	47K	5% 1/16W
R139	1-216-841-11	METAL GLAZE	47K	5% 1/16W
R140	1-216-841-11	METAL GLAZE	47K	5% 1/16W
R141	1-216-833-11	METAL GLAZE	10K	5% 1/16W
R142	1-216-841-11	METAL GLAZE	47K	5% 1/16W
R143	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R144	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R145	1-216-809-11	METAL GLAZE	100	5% 1/16W
R146	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R147	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R148	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R149	1-216-833-11	METAL GLAZE	10K	5% 1/16W
R150	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R151	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R152	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R153	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R154	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R155	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R156	1-216-827-11	METAL GLAZE	3.3K	5% 1/16W
R157	1-216-049-91	METAL GLAZE	1K	5% 1/10W
R158	1-216-843-11	METAL GLAZE	68K	5% 1/16W
R159	1-216-841-11	METAL GLAZE	47K	5% 1/16W
R160	1-218-738-11	METAL CHIP	82K	0.50% 1/16W
R161	1-216-837-11	METAL GLAZE	22K	5% 1/16W
R162	1-216-833-11	METAL GLAZE	10K	5% 1/16W
R163	1-216-823-11	METAL GLAZE	1.5K	5% 1/16W
R164	1-216-837-11	METAL GLAZE	22K	5% 1/16W
R165	1-216-829-11	METAL GLAZE	4.7K	5% 1/16W
R166	1-216-834-11	METAL GLAZE	12K	5% 1/16W
R167	1-216-851-11	METAL GLAZE	330K	5% 1/16W
R168	1-216-833-11	METAL GLAZE	10K	5% 1/16W
R169	1-216-835-11	METAL GLAZE	15K	5% 1/16W
R170	1-216-839-11	METAL GLAZE	33K	5% 1/16W
R171	1-218-724-11	METAL CHIP	22K	0.50% 1/16W
R172	1-216-832-11	METAL GLAZE	8.2K	5% 1/16W
R173	1-218-710-11	METAL CHIP	5.6K	0.50% 1/16W
R174	1-218-881-11	METAL CHIP	27K	0.50% 1/16W
R175	1-216-833-11	METAL GLAZE	10K	5% 1/16W
R176	1-216-837-11	METAL GLAZE	22K	5% 1/16W
R177	1-216-009-00	METAL GLAZE	22	5% 1/10W
R178	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R179	1-216-853-11	METAL GLAZE	470K	5% 1/16W
R180	1-216-065-00	METAL GLAZE	4.7K	5% 1/10W
R181	1-218-732-11	METAL CHIP	47K	0.50% 1/16W
R182	1-216-673-11	METAL CHIP	8.2K	0.50% 1/10W
R183	1-216-827-11	METAL GLAZE	3.3K	5% 1/16W
R185	1-216-845-11	METAL GLAZE	100K	5% 1/16W
R187	1-218-724-11	METAL CHIP	22K	0.50% 1/16W
R189	1-216-837-11	METAL GLAZE	22K	5% 1/16W
R190	1-216-833-11	METAL GLAZE	10K	5% 1/16W
R195	1-218-702-11	METAL CHIP	2.7K	0.50% 1/16W
R196	1-218-881-11	METAL CHIP	27K	0.50% 1/16W
R200	1-218-851-11	METAL CHIP	1.5K	0.50% 1/16W
R201	1-218-724-11	METAL CHIP	22K	0.50% 1/16W
R203	1-216-833-11	METAL GLAZE	10K	5% 1/16W
R204	1-216-833-11	METAL GLAZE	10K	5% 1/16W
R205	1-216-833-11	METAL GLAZE	10K	5% 1/16W
R206	1-216-833-11	METAL GLAZE	10K	5% 1/16W
R207	1-216-833-11	METAL GLAZE	10K	5% 1/16W
R208	1-216-833-11	METAL GLAZE	10K	5% 1/16W
R209	1-216-833-11	METAL GLAZE	10K	5% 1/16W
R210	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R211	1-216-823-11	METAL GLAZE	1.5K	5% 1/16W
R213	1-218-700-11	METAL CHIP	2.2K	0.50% 1/16W
R214	1-218-716-11	METAL CHIP	10K	0.50% 1/16W
R215	1-216-829-11	METAL GLAZE	4.7K	5% 1/16W
R216	1-216-833-11	METAL GLAZE	10K	5% 1/16W
R217	1-216-845-11	METAL GLAZE	100K	5% 1/16W
R218	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R219	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R220	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R221	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R222	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R223	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R224	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R225	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R226	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R227	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R228	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R229	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R230	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R232	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R233	1-218-708-11	METAL CHIP	4.7K	0.50% 1/16W
R234	1-218-694-11	METAL CHIP	1.2K	0.50% 1/16W
R235	1-218-716-11	METAL CHIP	10K	0.50% 1/16W
R236	1-216-851-11	METAL GLAZE	330K	5% 1/16W
R237	1-216-821-11	METAL GLAZE	1K	5% 1/16W
R238	1-216-829-11	METAL GLAZE	4.7K	5% 1/16W
R239	1-216-829-11	METAL GLAZE	4.7K	5% 1/16W
R240	1-216-821-11	METAL GLAZE	1K	5% 1/16W

DA DB

REF.NO.	PART NO.	DESCRIPTION			REMARK
R241	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R242	1-216-833-11	METAL GLAZE	10K	5%	1/16W
R243	1-216-853-11	METAL GLAZE	470K	5%	1/16W
R244	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W
R245	1-218-710-11	METAL CHIP	5.6K	0.50%	1/16W
R246	1-216-826-11	METAL GLAZE	2.7K	5%	1/16W
R247	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R248	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R249	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R250	1-218-717-11	METAL CHIP	11K	0.50%	1/16W
R251	1-218-724-11	METAL CHIP	22K	0.50%	1/16W
R252	1-218-873-11	METAL CHIP	12K	0.50%	1/16W
R253	1-218-873-11	METAL CHIP	12K	0.50%	1/16W
R254	1-218-873-11	METAL CHIP	12K	0.50%	1/16W
R255	1-218-873-11	METAL CHIP	12K	0.50%	1/16W
R257	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R258	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R259	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R260	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R261	1-216-826-11	METAL GLAZE	2.7K	5%	1/16W
R262	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R263	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R265	1-218-897-11	METAL CHIP	120K	0.50%	1/16W
R266	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W
R267	1-216-839-11	METAL GLAZE	33K	5%	1/16W
R268	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W
R269	1-216-833-11	METAL GLAZE	10K	5%	1/16W
R270	1-216-837-11	METAL GLAZE	22K	5%	1/16W
R271	1-216-830-11	METAL GLAZE	5.6K	5%	1/16W
R272	1-216-834-11	METAL GLAZE	12K	5%	1/16W
R273	1-216-835-11	METAL GLAZE	15K	5%	1/16W
R274	1-216-833-11	METAL GLAZE	10K	5%	1/16W
R275	1-216-833-11	METAL GLAZE	10K	5%	1/16W
R276	1-216-833-11	METAL GLAZE	10K	5%	1/16W
R277	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W
R278	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R279	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W
R280	1-218-730-11	METAL CHIP	39K	0.50%	1/16W
R281	1-218-710-11	METAL CHIP	5.6K	0.50%	1/16W
R282	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R284	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W
R285	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W
R286	1-216-845-11	METAL GLAZE	100K	5%	1/16W
R287	1-218-748-11	METAL CHIP	220K	0.50%	1/16W
R288	1-218-748-11	METAL CHIP	220K	0.50%	1/16W
R289	1-216-809-11	METAL GLAZE	100	5%	1/16W
R291	1-216-833-11	METAL GLAZE	10K	5%	1/16W
R292	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R300	1-216-809-11	METAL GLAZE	100	5%	1/16W
R301	1-216-809-11	METAL GLAZE	100	5%	1/16W
R303	1-216-817-11	METAL GLAZE	470	5%	1/16W
R304	1-218-704-11	METAL CHIP	3.3K	0.50%	1/16W
R305	1-218-704-11	METAL CHIP	3.3K	0.50%	1/16W
R308	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R309	1-218-697-11	METAL CHIP	1.6K	0.50%	1/16W
R310	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W
R311	1-216-827-11	METAL GLAZE	3.3K	5%	1/16W

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DB BOARD, COMPLETE

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(BOARD PART NO. 1-657-359-11)

CAPACITOR

C101	1-104-664-11	ELECT	47MF	20%	25V
C102	1-136-165-00	FILM	0.1MF	5%	50V
C103	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C104	1-137-368-11	FILM	0.0047MF	5%	50V
C105	1-104-664-11	ELECT	47MF	20%	25V
C106	1-137-364-11	FILM	0.001MF	5%	50V
C107	1-136-165-00	FILM	0.1MF	5%	50V
C108	1-164-073-11	CERAMIC	100PF	10%	50V
C109	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C110	1-104-664-11	ELECT	47MF	20%	25V
C111	1-104-664-11	ELECT	47MF	20%	25V
C113	1-104-799-11	ELECT	22MF	20%	50V
C114	1-104-799-11	ELECT	22MF	20%	50V
C115	1-102-978-00	CERAMIC	220PF	5%	50V
C116	1-136-165-00	FILM	0.1MF	5%	50V
C117	1-136-165-00	FILM	0.1MF	5%	50V
C118	1-126-163-11	ELECT	4.7MF	20%	50V

CONNECTOR

CN3	*1-691-632-11	CONNECTOR, BOARD TO BOARD 15P

DIODE

D101	8-719-404-46	DIODE MA110
D103	8-719-027-50	DIODE MA142WK
D106	8-719-158-49	DIODE RD12SB2
D107	8-719-404-46	DIODE MA110
D108	8-719-404-46	DIODE MA110
D109	8-719-158-49	DIODE RD12SB2

IC

IC101	8-759-135-80	IC UPC358C
IC102	8-759-208-17	IC TC4528BPHB
IC103	8-759-602-79	IC M5216L
IC104	8-759-708-12	IC NJM78L12A

TRANSISTOR

Q102	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q103	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q104	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q105	8-729-216-22	TRANSISTOR 2SA1162-G
Q106	8-729-216-22	TRANSISTOR 2SA1162-G

DB H

REF.NO.	PART NO.	DESCRIPTION			REMARK
		RESISTOR			
R101	1-216-073-00	METAL GLAZE	10K	5% 1/10W	
R102	1-208-806-11	METAL CHIP	10K	0.50% 1/10W	
R103	1-218-768-11	METAL CHIP	470K	0.50% 1/10W	
R104	1-218-760-11	METAL CHIP	220K	0.50% 1/10W	
R105	1-216-649-11	METAL CHIP	820	0.50% 1/10W	
R106	1-216-663-11	METAL CHIP	3.3K	0.50% 1/10W	
R107	1-216-057-00	METAL GLAZE	2.2K	5% 1/10W	
R108	1-216-073-00	METAL GLAZE	10K	5% 1/10W	
R109	1-216-627-11	METAL CHIP	100	0.50% 1/10W	
R110	1-216-049-91	METAL GLAZE	1K	5% 1/10W	
R111	1-216-049-91	METAL GLAZE	1K	5% 1/10W	
R112	1-216-049-91	METAL GLAZE	1K	5% 1/10W	
R113	1-249-887-11	CARBON	33	5% 1/4W	F
R114	1-208-806-11	METAL CHIP	10K	0.50% 1/10W	
R115	1-208-814-11	METAL CHIP	22K	0.50% 1/10W	
R116	1-208-814-11	METAL CHIP	22K	0.50% 1/10W	
R117	1-208-806-11	METAL CHIP	10K	0.50% 1/10W	
R118	1-216-057-00	METAL GLAZE	2.2K	5% 1/10W	
R119	1-216-627-11	METAL CHIP	100	0.50% 1/10W	
R123	1-249-437-11	CARBON	47K	5% 1/4W	
R124	1-249-437-11	CARBON	47K	5% 1/4W	
R126	1-208-854-11	METAL CHIP	1M	0.50% 1/10W	
R130	1-208-806-11	METAL CHIP	10K	0.50% 1/10W	

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H BOARD

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(BOARD PART NO. 1-657-355-11)

4-045-133-01 HOLDER (B), LED

CAPACITOR

C904	1-102-114-00	CERAMIC	470PF	10%	50V
C905	1-102-114-00	CERAMIC	470PF	10%	50V
C906	1-102-114-00	CERAMIC	470PF	10%	50V
C907	1-102-114-00	CERAMIC	470PF	10%	50V
C931	1-128-057-11	ELECT	330MF	20%	6.3V
C932	1-161-051-00	CERAMIC	0.01MF	10%	50V
C933	1-126-160-11	ELECT	1MF	20%	50V
C945	1-136-165-00	FILM	0.1MF	5%	50V
C990	1-136-153-00	FILM	0.01MF	5%	50V
C991	1-136-153-00	FILM	0.01MF	5%	50V
C992	1-136-153-00	FILM	0.01MF	5%	50V
C993	1-136-153-00	FILM	0.01MF	5%	50V

CONNECTOR

CN901 *1-564-525-11 PLUG, CONNECTOR 10P

DIODE

D901 *4-049-089-01 HOLDER, LED

REF.NO.	PART NO.	DESCRIPTION	REMARK
D901	8-719-045-19	DIODE SPB-26MVWF	
D902	8-719-311-90	DIODE SEL1922D-C	
D903	*4-049-089-01	HOLDER, LED	
D903	8-719-311-90	DIODE SEL1922D-C	
D904	8-719-311-90	DIODE SEL1922D-C	
D905	8-719-311-90	DIODE SEL1922D-C	
D906	8-719-311-90	DIODE SEL1922D-C	
D907	8-719-311-90	DIODE SEL1922D-C	
D908	8-719-911-19	DIODE 1SS119-25	
D909	8-719-911-19	DIODE 1SS119-25	
D910	8-719-911-19	DIODE 1SS119-25	
D911	8-719-911-19	DIODE 1SS119-25	
D912	8-719-311-90	DIODE SEL1922D-C	
D913	8-719-109-85	DIODE RD5.1ESB2	
D914	8-719-109-85	DIODE RD5.1ESB2	
D915	8-719-109-85	DIODE RD5.1ESB2	
D916	8-719-109-85	DIODE RD5.1ESB2	
D917	8-719-109-85	DIODE RD5.1ESB2	
D918	8-719-109-85	DIODE RD5.1ESB2	
D919	8-719-109-85	DIODE RD5.1ESB2	
D920	8-719-911-19	DIODE 1SS119-25	
D921	8-719-911-19	DIODE 1SS119-25	
D922	8-719-911-19	DIODE 1SS119-25	
D923	8-719-911-19	DIODE 1SS119-25	
D924	8-719-311-90	DIODE SEL1922D-C	

IC

IC931	8-759-285-18	IC MC68HC05P7BSC402191B	
IC932	8-759-165-81	IC PST600D-T	

COIL

L901	1-410-482-31	INDUCTOR	100UH

TRANSISTOR

Q931	8-729-900-36	TRANSISTOR DTC124ES
Q932	8-729-902-80	TRANSISTOR DTA114YS
Q933	8-729-902-80	TRANSISTOR DTA114YS

RESISTOR

R901	1-247-807-31	CARBON	100	5%	1/4W
R902	1-247-807-31	CARBON	100	5%	1/4W
R903	1-247-807-31	CARBON	100	5%	1/4W
R904	1-247-807-31	CARBON	100	5%	1/4W
R905	1-247-807-31	CARBON	100	5%	1/4W
R906	1-249-423-11	CARBON	3.3K	5%	1/4W
R907	1-247-807-31	CARBON	100	5%	1/4W
R908	1-249-425-11	CARBON	4.7K	5%	1/4W
R909	1-249-425-11	CARBON	4.7K	5%	1/4W
R910	1-249-425-11	CARBON	4.7K	5%	1/4W
R911	1-249-425-11	CARBON	4.7K	5%	1/4W
R912	1-247-807-31	CARBON	100	5%	1/4W
R913	1-247-807-31	CARBON	100	5%	1/4W

H L

REF.NO.	PART NO.	DESCRIPTION			REMARK
R914	1-247-807-31	CARBON	100	5%	1/4W
R915	1-247-807-31	CARBON	100	5%	1/4W
R916	1-247-807-31	CARBON	100	5%	1/4W
R917	1-247-807-31	CARBON	100	5%	1/4W
R918	1-247-807-31	CARBON	100	5%	1/4W
R919	1-247-807-31	CARBON	100	5%	1/4W
R921	1-247-903-00	CARBON	1M	5%	1/4W
R931	1-249-437-11	CARBON	47K	5%	1/4W
R932	1-249-437-11	CARBON	47K	5%	1/4W
R933	1-249-437-11	CARBON	47K	5%	1/4W
R934	1-249-437-11	CARBON	47K	5%	1/4W
R935	1-247-903-00	CARBON	1M	5%	1/4W
R936	1-247-895-00	CARBON	470K	5%	1/4W
R937	1-249-437-11	CARBON	47K	5%	1/4W
R938	1-249-437-11	CARBON	47K	5%	1/4W
R939	1-247-895-00	CARBON	470K	5%	1/4W
R940	1-249-437-11	CARBON	47K	5%	1/4W

SWITCH

S902	1-571-532-21	SWITCH, TACTIL
S903	1-571-532-21	SWITCH, TACTIL
S904	1-571-532-21	SWITCH, TACTIL
S906	1-571-532-21	SWITCH, TACTIL
S907	1-571-532-21	SWITCH, TACTIL
S908	1-571-532-21	SWITCH, TACTIL
S910	1-571-532-21	SWITCH, TACTIL
S911	1-571-532-21	SWITCH, TACTIL
S912	1-571-532-21	SWITCH, TACTIL
S913	1-571-532-21	SWITCH, TACTIL
S914	1-571-532-21	SWITCH, TACTIL
S915	1-571-532-21	SWITCH, TACTIL
S916	1-571-532-21	SWITCH, TACTIL

CRISTAL

X931	1-577-358-21	VIBRATOR, CERAMIC

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CONVERGENCE ADJ MCB ASSY (L BOARD)

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(BOARD PART NO. 1-657-356-11)

4-382-854-21 SCREW (M3X14), P, SW (+) (IC703)

CAPACITOR

C703	1-137-364-11	FILM	0.001MF	5%	50V
C704	1-136-165-00	FILM	0.1MF	5%	50V
C705	1-137-364-11	FILM	0.001MF	5%	50V
C706	1-136-165-00	FILM	0.1MF	5%	50V
C707	1-102-518-11	CERAMIC	33PF	5%	50V
C708	1-102-074-00	CERAMIC	0.001MF	10%	50V
C709	1-107-889-11	ELECT	220MF	20%	25V
C710	1-124-122-11	ELECT	100MF	20%	50V
C711	1-124-122-11	ELECT	100MF	20%	50V
C712	1-102-973-00	CERAMIC	100PF	5%	50V
C713	1-102-973-00	CERAMIC	100PF	5%	50V
C714	1-102-121-00	CERAMIC	0.0022MF	10%	50V
C715	1-126-964-11	ELECT	10MF	20%	50V
C716	1-126-964-11	ELECT	10MF	20%	50V
C717	1-126-967-11	ELECT	47MF	20%	50V
C718	1-126-967-11	ELECT	47MF	20%	50V
C719	1-126-964-11	ELECT	10MF	20%	50V
C720	1-126-964-11	ELECT	10MF	20%	50V
C721	1-136-165-00	FILM	0.1MF	5%	50V
C722	1-137-364-11	FILM	0.001MF	5%	50V
C723	1-136-165-00	FILM	0.1MF	5%	50V
C726	1-126-964-11	ELECT	10MF	20%	50V
C727	1-126-964-11	ELECT	10MF	20%	50V
C728	1-136-169-00	FILM	0.22MF	5%	50V
C729	1-136-169-00	FILM	0.22MF	5%	50V
C730	1-102-074-00	CERAMIC	0.001MF	10%	50V
C731	1-102-074-00	CERAMIC	0.001MF	10%	50V
C732	1-136-169-00	FILM	0.22MF	5%	50V

CONNECTOR

CN701*	1-564-514-11	PLUG, CONNECTOR 11P
CN702*	1-564-511-11	PLUG, CONNECTOR 8P

DIODE

D701	8-719-979-84	DIODE EGP20DPKG23
D702	8-719-979-84	DIODE EGP20DPKG23
D703	8-719-911-19	DIODE 1SS119-25
D704	8-719-911-19	DIODE 1SS119-25
D705	8-719-109-54	DIODE RD2.2ESB2
D706	8-719-109-54	DIODE RD2.2ESB2

IC

IC701	8-759-803-42	IC LA6500-FA
IC702	8-759-803-42	IC LA6500-FA
IC703	8-749-924-04	IC STK390-120
IC704	8-759-803-42	IC LA6500-FA

TRANSISTOR

Q701	8-729-900-36	TRANSISTOR DTC124ES

RESISTOR

R701	1-215-469-00	METAL	100K	1%	1/4W
R703	1-249-423-11	CARBON	3.3K	5%	1/4W
R704	1-215-434-00	METAL	3.6K	1%	1/4W
R705	1-215-423-00	METAL	1.2K	1%	1/4W
R706	1-249-381-11	CARBON	1	5%	1/4W F
R707	1-215-373-31	METAL	10	1%	1/4W
R708	1-249-429-11	CARBON	10K	5%	1/4W
R709	1-249-420-11	CARBON	1.8K	5%	1/4W

L

Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
R710	1-249-422-11	CARBON	2.7K	5% 1/4W	
R711	1-249-407-11	CARBON	150	5% 1/4W	F
R712	1-249-386-11	CARBON	2.7	5% 1/4W	F
R714	1-249-425-11	CARBON	4.7K	5% 1/4W	
R715	1-249-421-11	CARBON	2.2K	5% 1/4W	
R716	1-249-405-11	CARBON	100	5% 1/4W	F
R717	1-249-405-11	CARBON	100	5% 1/4W	F
R718	1-216-423-11	METAL OXIDE	27	5% 1W	F
R719	1-216-351-00	METAL OXIDE	1.5	5% 1W	F
R720	1-249-425-11	CARBON	4.7K	5% 1/4W	
R721	1-249-441-11	CARBON	100K	5% 1/4W	
R722	1-249-437-11	CARBON	47K	5% 1/4W	
R723	1-249-434-11	CARBON	27K	5% 1/4W	
R724	1-217-637-00	FUSIBLE	1	5% 1/4W	F
R725	1-217-637-00	FUSIBLE	1	5% 1/4W	F
R726	1-215-453-00	METAL	22K	1% 1/4W	
R727	1-249-423-11	CARBON	3.3K	5% 1/4W	
R728	1-215-434-00	METAL	3.6K	1% 1/4W	
R729	1-215-421-00	METAL	1K	1% 1/4W	
R730	1-249-381-11	CARBON	1	5% 1/4W	F
R731	1-215-373-31	METAL	10	1% 1/4W	
R732	1-215-428-00	METAL	2K	1% 1/4W	
R733	1-249-422-11	CARBON	2.7K	5% 1/4W	
R739	1-215-458-00	METAL	36K	1% 1/4W	
R741	1-215-445-00	METAL	10K	1% 1/4W	

MISCELLANEOUS

⚠	1-411-471-11	COIL, DEMAGNETIZATION
⚠	1-411-472-11	COIL, LANDING CORRECTION
⚠	1-452-729-11	NECK ASSEMBLY (NA3011)
⚠	1-540-006-92	CAP ASSY, HIGH-VOLTAGE
⚠	1-540-157-11	INLET, AC (3P WITH NOISE FILTER)
	1-543-798-11	FILTER, CLAMP (FERRITE CORE)
*	1-543-830-11	CLAMP, SLEEVE FERRITE
⚠*	1-575-135-41	CABLE, COAXIAL (B)
⚠*	1-575-135-51	CABLE, COAXIAL (G)
⚠*	1-575-135-61	CABLE, COAXIAL (R)
⚠	1-765-581-11	CORD SET, POWER SUPPLY 10A/250V
	1-775-508-11	CABLE ASSY (15P DSUB CONNECTOR)
⚠	8-451-465-11	DEFRECTION YOKE Y20SHLM
V901 ⚠	8-736-369-90	PICTURE TUBE M49KZK17X

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